

NASA Contractor Report 4468

# Publications of the Space Physiology and Countermeasures Program, Musculoskeletal Discipline: 1980–1990

Elizabeth L. Hess, Janice Wallace-Robinson,  
Katherine J. Dickson, and Janet V. Powers  
*The George Washington University*  
*Washington, D.C.*

Prepared for  
NASA Office of Space Science and Applications  
under Contract NASW-4324



National Aeronautics and  
Space Administration  
Office of Management  
Scientific and Technical  
Information Program

1992

(NASA-CR-4468) PUBLICATIONS OF THE  
SPACE PHYSIOLOGY AND  
COUNTERMEASURES PROGRAM,  
MUSCULOSKELETAL DISCIPLINE:  
1980-1990 (George Washington  
Univ.) 103 p

N93-12898

Unclass

H1/89 0130397



## TABLE OF CONTENTS

Preface .....	v
Introduction .....	vii
Musculoskeletal Discipline References	
Bone, Mineral, and Connective Tissue .....	3
Muscle .....	41
General Musculoskeletal .....	75
General Physiology References .....	79
Index of Principal Investigators .....	95
Appendix: List of Principal Investigators and Addresses .....	101

PRECEDING PAGE MARK NOT FILMED

102 11 INTENTIONALLY BLANK



## PREFACE

This bibliography contains publications resulting from research supported by the Musculoskeletal Discipline of the NASA Space Physiology and Countermeasures Program during the years 1980-1990. It is one of a series of four bibliographies being published in 1992 of the disciplines of the Space Physiology and Countermeasures Program. Others in this series include publications from the Regulatory Physiology, Cardiopulmonary, and Neuroscience Disciplines. Portions of this compilation have been published previously as part of a series of bibliographies of space biomedical research. Previous editions in this series cover the years 1980-1982 (NASA CR-3587), 1982-1983 (NASA CR-3739), 1983-1984 (NASA CR-3860), 1984-1986 (NASA CR-4184), and 1987-1988 (NASA CR-187840).

This bibliography is divided into four sections: Bone, Mineral, and Connective Tissue; Muscle; General Musculoskeletal; and General Physiology. The last section is included to provide the reader with additional, background material in space physiology research. NASA-funded investigators whose work resulted in these publications are identified by an asterisk. A principal investigator index, as well as a list of investigators and their affiliations, is also included in the bibliography.

As part of our continuing interaction with the scientific and professional community, we are pleased to present this bibliography in an effort to stimulate an exchange of information and ideas among scientists working in this discipline. I would like to thank April Commodore Roy and Audrey Robin Brown for their technical assistance in the production of this bibliography.

Janis H. Stoklosa, Ph.D.  
Manager, Space Physiology and Countermeasures Program



## INTRODUCTION

The Musculoskeletal Discipline is part of the Space Physiology and Countermeasures Program of the NASA Life Sciences Division. Space life sciences research was initiated in 1960 with the goal of enabling human survival in space. Now, in the late 20th century, the program is evolving to ensure human health and productivity on space missions: on the space shuttle in the 1990s, then on Space Station Freedom, and ultimately on the Moon and missions to Mars.

The goals of the Musculoskeletal Discipline are to understand the musculoskeletal system's adaptation to spaceflight and to ensure the provision of adequate physiological and performance countermeasures. It encompasses two primary research areas: bone, mineral, and connective tissue; and muscle. This multidisciplinary effort incorporates basic, applied, and operational research, both ground-based and in-flight. Research conducted at NASA centers and in universities includes human and animal (rats and non-human primates) subjects and utilizes various ground-based analogs of weightlessness (including horizontal and head-down bedrest, water immersion, immobilization, and hind-limb suspension) as well as actual space shuttle missions.

Specific objectives of the program include: determining the responses and consequences of muscular and skeletal adaptation to microgravity; determining crew performance or mission consequences of muscular and skeletal responses to microgravity; understanding the mechanisms of muscular and skeletal adaptation to microgravity; developing and verifying muscular and skeletal countermeasures that will facilitate a rapid physiological transition from microgravity to gravity; developing and verifying ground-based human and animal models to study musculoskeletal changes; developing and verifying biomechanical models to investigate neuromuscular and musculoskeletal mechanisms during activities in varying gravity environments; and developing and verifying computer models of adaptation to study muscle and bone at the tissue level.

Janis H. Stoklosa, Ph.D.  
Manager, Space Physiology and Countermeasures Program





## **BONE, MINERAL, AND CONNECTIVE TISSUE**



Abrams, S.A.; Schanler, R.J.; Sheng, H.-P.; Evans, H.J.; LeBlanc\*, A.D.; Garza, C.  
Bone mineral content reflects total body calcium in neonatal miniature piglets.  
*Pediatric Research* 24(6): 693-695, 1988. (GWU 9716)

Allen, P.E.; Asling, C.W.; Callahan\*, P.X.  
A rapid, sensitive, selective radioimmunoassay for osteocalcin.  
In: *Calcium-Binding Proteins: Structure and Function* (Siegel, F.L., Carafoli, E., Kretsinger, R.H., MacLennan, D.H., Wasserman, R.H., Eds.). New York: Elsevier North-Holland, p. 475-476, 1980. (GWU 2743)

Allen, P.E.; Shakes, D.C.; Callahan\*, P.X.  
Age related changes in osteocalcin in fetal and neonatal rats (Abstract).  
*Calcified Tissue International* 33(3): 290, 1981. (GWU 3282)

Altchuler\*, S.I.  
Dietary protein and calcium loss: A review.  
*Nutrition Research* 2: 193-200, 1982. (GWU 4650)

Altchuler\*, S.I.  
Skeletal metabolism (Abstract).  
In: *Space-Environment Workshop for Life Scientists*. Washington, DC: NASA Headquarters, p. 44-45, 1980. (GWU 4949)

Altchuler\*, S.I.; Brand, S.N.; White, R.J.  
A mathematical model of calcium metabolism.  
In: *Preprints of 1981 Annual Scientific Meeting, Aerospace Medical Association*, San Antonio, TX, May 4-7, 1981. Washington, DC: Aerospace Medical Association, p. 309-310, 1981. (GWU 1993)

Altchuler\*, S.I.; Brand, S.N.; White, R.J.  
A mathematical model of calcium metabolism (Abstract).  
*Federation Proceedings* 40(3): 921, 1981. (GWU 1585)

Altobelli, S.A.; Nerem\*, R.M.  
An experimental study of coronary artery fluid mechanics.  
*Journal of Biomechanical Engineering* 107(1): 16-23, 1985. (GWU 7702)

Amtmann, E.; Oyama\*, J.; Potulski, M.  
Effect of chronic centrifugation on the cross-sectional shape of long bones in dogs.  
*Gegenbaurs Morphologisches Jahrbuch* 127(3): 382-390, 1981. (GWU 2603)

Anderson, R.E.; Jee\*, W.S.S.; Woodbury, D.M.  
Stimulation of carbonic anhydrase in osteoclasts by parathyroid hormone.  
*Calcified Tissue International* 37: 646-650, 1985. (GWU 7466)

Anderson, R.E.; Kemp, J.W.; Jee\*, W.S.S.; Woodbury\*, D.M.  
Effects of cortisol and fluoride on ion-transporting ATPase activities in cultured osteoblastlike cells.  
*In Vitro* 20(11): 847-855, 1984. (GWU 7075)

Anderson, R.E.; Kemp, J.W.; Jee\*, W.S.S.; Woodbury\*, D.M.  
Ion-transporting ATPases and matrix mineralization in cultured osteoblastlike cells.  
*In Vitro* 20(11): 837-846, 1984. (GWU 7074)

Anderson, R.E.; Woodbury, D.M.; Jee\*, W.S.S.  
Humoral and ionic regulation of osteoclast acidity.  
*Calcified Tissue International* 39: 252-258, 1986. (GWU 7470)

- Anderson, R.E.; Woodbury\*, D.M.  
Direct effects of diphenylhydantoin (phenytoin) on the ion-transporting ATPases of cultured osteoblast-like cells.  
*Epilepsia* 25(6): 773-778, 1984. (GWU 7468)
- Anderson, S.A.; Cohn, S.H. (Talbot, J.M. = P.I.)  
*Final Report Phase III: Research Opportunities in Bone Demineralization*. Washington, DC: NASA Headquarters, 82 p., 1984. (NASA-CR-3795) (GWU 5643)
- Arnaud\*, C.D.  
Hormonal regulation of calcium homeostasis.  
In: *Assay of Calcium-Regulating Hormones* (Bikle, D.D., Ed.). New York: Springer-Verlag, p. 1-19, 1983. (GWU 5873)
- Arnaud\*, C.D.  
Mineral and bone homeostasis.  
In: *Cecil Textbook of Medicine* (Wyngaarden, J.B., Smith, L.H., Jr., Plum, F., Eds.). Philadelphia, PA: W.B. Saunders, p. 1469-1476, 1988. (GWU 11365)
- Arnaud\*, C.D.  
The parathyroid glands, hypercalcemia, and hypocalcemia.  
In: *Cecil Textbook of Medicine* (Wyngaarden, J.B., Smith, L.H., Jr., Plum, F., Eds.). Philadelphia, PA: W.B. Saunders, p. 1486-1505, 1988. (GWU 11369)
- Arnaud\*, C.D.  
Role of dietary calcium in osteoporosis.  
*Advances in Internal Medicine* 35: 93-106, 1990. (GWU 5996)
- Arnaud\*, C.D.  
The ultimobranchial cells and calcitonin.  
In: *Cecil Textbook of Medicine* (Wyngaarden, J.B., Smith, L.H., Jr., Plum, F., Eds.). Philadelphia, PA: W.B. Saunders, p. 1505-1507, 1988. (GWU 11370)
- Arnaud\*, C.D.; Sanchez, S.D.  
The role of calcium in osteoporosis.  
*Annual Review of Nutrition* 10: 397-414, 1990. (GWU 5891)
- Arnaud\*, C.D.; Teitelbaum, A.P.; Silve, C.; Nyireddy, K.O.  
Evidence that homologous desensitization of cultured chick bone cells may involve uncoupling of the parathyroid hormone receptor from adenylate cyclase (Abstract).  
*Calcified Tissue International* 36: 500, 1984. (GWU 7076)
- Arnaud\*, S.; Mechanic\*, G.; Buckendahl, P.; Bromage, T.; Boyde, A.; Elliott, J.; Katz, E.; Durnova, G.  
Experiment K-6-01: Distribution and biochemistry of mineral and matrix in the femurs of rats.  
In: *Final Reports of the U.S. Experiments Flown on the Soviet Biosatellite Cosmos 1887* (Connolly, J.P., Grindeland, R.E., Ballard, R.W., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 63-84, 1990. (NASA-TM-102254) (GWU 13120)
- Arnaud\*, S.B.; Fung, P.; Buckendahl, P.; Vasques, M.; Grindeland\*, R.  
Alkaline phosphatase and osteocalcin in the blood of two genetic strains of rats (Abstract).  
*Physiologist* 31(4): A86, 1988. (GWU 10811)
- Arnaud\*, S.B.; Fung, P.; Popova, I.; Kaplansky, A.  
Effects of space flight on serum parathyroid hormone and calcitonin in rats (Abstract).  
*Journal of Bone and Mineral Research* 5(Suppl. 2): S193, 1990. (GWU 13961)

Arnaud\*, S.B.; Holton\*, E.M.; Buckendahl, P.P.; Tietjen, G.  
Early effects of weightlessness on growing bone.  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 226-227. (GWU 9306)

Arnaud\*, S.B.; Jee\*, W.S.S.; Minato, I.; Buckendahl, P.; Berry, P.; Young\*, D.R.  
Effect of dietary calcium on the bone of adult vitamin D deficient rhesus monkeys (Abstract).  
*Journal of Bone and Mineral Research* 1(Suppl. 1): #242, 1986. (GWU 7945)

Arnaud\*, S.B.; Morey-Holton\*, E.  
Gravity, calcium, and bone: Update, 1989.  
*Physiologist* 33(1): S65-S68, 1990. (GWU 12796)

Arnaud\*, S.B.; Patterson-Buckendahl, P.; Halpryn, B.M.; Maese, C.; Harris, B.A.; Morey-Holton\*, E.; Cann\*, C.E.  
Endogenous cortisol and serum osteocalcin in rhesus monkeys during simulated weightlessness (Abstract).  
*Journal of Bone and Mineral Research* 2(Suppl. 1): 541, 1987. (GWU 10541)

Arnaud\*, S.B.; Powell, M.R.; Vernikos-Danellis\*, J.; Buchanan\*, P.  
Bone mineral and body composition after 30 day head down tilt bed rest (Abstract).  
*Journal of Bone and Mineral Research* 3(Suppl. 1): S119, 1988. (GWU 10542)

Arnaud\*, S.B.; Powell, M.R.; Whalen, R.T.; Vernikos-Danellis\*, J.  
Bone mineral redistribution during head down tilt bed rest (Abstract).  
*ASGSB Bulletin* 2: 54, 1989. (GWU 10752)

Arnaud\*, S.B.; Schneider\*, V.S.; Morey-Holton\*, E.  
Effects of inactivity on bone and calcium metabolism.  
In: *Inactivity: Physiological Effects* (Sandler, H., Vernikos, J., Eds.). New York: Academic Press, p. 49-76, 1986. (GWU 7724)

Arnaud\*, S.B.; Sherrard, D.J.; Maloney, N.; Whalen, R.T.; Fung, P.  
Reduced bone formation is measureable in the iliac crest of normal men after 7 days in a bed rest model of weightlessness (Abstract).  
*Journal of Bone and Mineral Research* 4(Suppl. 1): S233, 1989. (GWU 13223)

Arnaud\*, S.B.; Silver, B.  
A non-invasive measure of minerals and electrolytes in tissue.  
In: *Technology 2000*. Washington, DC: NASA Headquarters, p. 151-154, 1990. (NASA-CP-3109, Vol. 2) (GWU 13981)

Arnaud\*, S.B.; Steele, C.; Mauriello, A.  
Mechanical response tissue analyzer for estimating bone strength.  
In: *Technology 2000*. Washington, DC: NASA Headquarters, p. 83-85, 1990. (NASA-CP-3109, Vol. 1) (GWU 13980)

Arnaud\*, S.B.; Young\*, D.R.; Berry, P.; Brown, S.  
Normocalcemic and hypocalcemic vitamin D deficiency (-D) in the adult rhesus monkey (Abstract).  
In: *Abstracts of Papers, Proceedings of the 68th Annual Meeting of the Endocrine Society*, Anaheim, CA, June, 1986, 1 p. (GWU 7461)

Arnaud\*, S.B.; Young\*, D.R.; Cann\*, C.; Reinhardt, T.A.; Henrickson, R.  
Is hypervitaminosis D normal in the rhesus monkey?  
In: *Vitamin D: Chemical, Biochemical and Clinical Update* (Norman, A.W., Schaefer, K., Grigolcit, H.-G., von Herrath, D., Eds.). New York: Walter de Gruyter, p. 585-586, 1985. (GWU 7077)

- Banes, A.J.; Link, G.W.; Peterson, H.D.; Yamauchi, M.; Mechanic\*, G.L.  
Temporal changes in collagen crosslink formation at the focus of trauma and at sites distant to a wound.  
In: *The Pathophysiology of Combined Injury and Trauma: Management of Infectious Complications in Mass Casualty Situations* (Gruber, D., Walker, R.I., MacVittie, T.J., Conklin, J.J., Eds.). New York: Academic Press, p. 257-273, 1987. (GWU 10588)
- Banes, A.J.; Yamauchi, M.; Mechanic\*, G.L.  
Nonmineralized and mineralized compartments of bone: The role of pyridinolone in nonmineralized collagen.  
*Biochemical and Biophysical Research Communications* 113(3): 975-981, 1983. (GWU 5581)
- Baranowski, T.J., Jr.; Black, J.; Brighton\*, C.T.  
Microenvironmental changes associated with electrical stimulation of osteogenesis by direct current (Abstract).  
*Journal of the Electrochemical Society* 130: 120C, 1983. (GWU 4837)
- Barden, H.S.; Mazess\*, R.B.; Chesney, R.W.; Rose, P.G.; Chun, R.  
Bone status of children receiving anticonvulsant therapy.  
*Metabolic Bone Disease and Related Research* 4(1): 43-47, 1982. (GWU 4509)
- Barden, H.S.; Mazess\*, R.B.; Rose, P.G.; McAweeney, W.  
Bone mineral status measured by direct photon absorptiometry in institutionalized adults receiving long-term anticonvulsant therapy and multivitamin supplementation.  
*Calcified Tissue International* 31(2): 117-121, 1980. (GWU 684)
- Baylink, D.J.; Morey\*, E.R.; Ivey, J.L.; Stauffer, M.E.  
Vitamin D and bone.  
In: *Vitamin D: Molecular Biology and Clinical Nutrition* (Norman, A.W., Ed.). New York: Marcel Dekker, p. 387-453, 1980. (GWU 3221)
- Beall, P.T.; Misra, L.K.; Young, R.L.; Spjut, H.J.; Evans, H.J.; LeBlanc\*, A.  
Clomiphene protects against osteoporosis in the mature ovariectomized rat.  
*Calcified Tissue International* 36(1): 123-125, 1984. (GWU 5496)
- Bessman, E.S.; Carter\*, D.R.; McCarthy, J.C.; Harris, W.H.  
Accuracy enhancement of in-vivo bone strain measurements and analysis.  
*Journal of Biomechanical Engineering* 104: 226-231, 1982. (GWU 4567)
- Bikle\*, D.D.; Globus, R.K.; Morey\*, E.R.  
Calcium transport from the intestine and into bone in a rat model simulating weightlessness.  
*Physiologist* 25(6, Suppl.): S143-S144, 1982. (GWU 3803)
- Bikle\*, D.D.; Globus, R.K.; Morey\*, E.R.  
Calcium transport from the intestine and into bone in a rat model simulating weightlessness (Abstract).  
*Physiologist* 25(4): 302, 1982. (GWU 3482)
- Bikle\*, D.D.; Halloran\*, B.P.; Cone, C.M.; Morey-Holton\*, E.  
Bone loss during simulated weightlessness: Is it glucocorticoid mediated?  
*Physiologist* 28(6, Suppl.): S123-S124, 1985. (GWU 6904)
- Bikle\*, D.D.; Halloran\*, B.P.; Cone, C.M.; Morey-Holton\*, E.  
Bone loss during simulated weightlessness: Is it glucocorticoid mediated? (Abstract)  
*Physiologist* 28(4): 311, 1985. (GWU 6950)
- Block, J.E.; Friedlander, A.L.; Brooks, G.A.; Steiger, P.; Stubbs, H.A.; Genant\*, H.K.  
Determinants of bone density among athletes engaged in weight-bearing and non-weight-bearing activity.  
*Journal of Applied Physiology* 67(3): 1100-1105, 1989. (GWU 13685)

- Block, J.E.; Genant\*, H.K.; Black, D.  
Greater vertebral bone mineral mass in exercising young men.  
*Western Journal of Medicine* 145(1): 39-42, 1986. (GWU 7967)
- Block, J.E.; Genant\*, H.K.; Brooks, G.; Wilmont, C.; Steiger, P.  
Models of bone hypertrophy due to intense physical fitness and bone atrophy due to immobilization (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 140. (GWU 9968)
- Block, J.E.; Smith, R.; Friedlander, A.; Genant\*, H.K.  
Preventing osteoporosis with exercise: A review with emphasis on methodology.  
*Medical Hypotheses* 30: 9-19, 1989. (GWU 13686)
- Block, J.E.; Smith, R.; Glueer, C.-C.; Steiger, P.; Ettinger, B.; Genant\*, H.K.  
Models of spinal trabecular bone loss as determined by quantitative computed tomography.  
*Journal of Bone and Mineral Research* 4(2): 249-257, 1989. (GWU 10359)
- Boyd, D.P.; Cann, C.E.; Couch, J.L.; Faul, D.D.; Gould, R.G.; Peschmann, K.R.; Genant\*, H.K.  
Future advanced CT technology for bone and tissue densitometry: Isotope source and electron beam scanners (Abstract).  
*Journal of Computer Assisted Tomography* 6(1): 202, 1982. (GWU 4215)
- Brand, S.N.; Altchuler\*, S.I.  
Development of a mathematical model of human calcium metabolism.  
Paper presented at the Gordon Research Conference, Meriden, NH, July 14-18, 1980, 1 p. (GWU 3702)
- Brommage, R.; DeLuca\*, H.F.  
A maternal defect is responsible for growth failure in vitamin D-deficient rat pups.  
*American Journal of Physiology* 246: E216-E220, 1984. (GWU 7732)
- Brommage, R.; DeLuca\*, H.F.  
Regulation of bone mineral loss during lactation.  
*American Journal of Physiology* 248(2, Part 1): E182-E187, 1985. (GWU 6526)
- Brommage, R.; DeLuca\*, H.F.  
Self-selection of a high calcium diet by vitamin D-deficient lactating rats increases food consumption and milk production (Abstract).  
*Calcified Tissue International* 36: 511, 1984. (GWU 7090)
- Brown, A.J.; DeLuca\*, H.F.  
Production of 10-oxo-19-nor-25 hydroxyvitamin D<sub>3</sub> by solubilized kidney mitochondria from chick and rat.  
*Journal of Biological Chemistry* 260(26): 14132-14136, 1985. (GWU 7703)
- Buckendahl, P.E.; Cann\*, C.E.; Grindeland\*, R.E.; Martin, R.B.; Mechanic\*, G.; Arnaud\*, S.B.  
Osteocalcin (OC) as an indicator of bone metabolism during spaceflight (Abstract).  
*Physiologist* 28(4): 379, 1985. (GWU 7091)
- Bunch\*, T.E.; Young\*, D.R.; Niklowitz, W.J.  
Disuse osteoporosis in the monkey: Electron probe analysis of cortical bone (Abstract).  
*Calcified Tissue International* 34(Suppl. 1): S3, 1982. (GWU 3933)
- Cann\*, C.; Rakhmanov, A.; Karolkov, V.  
Experiment K-6-27: Analysis of radiographs and biosamples from primate studies.  
In: *Final Reports of the U.S. Experiments Flown on the Soviet Biosatellite Cosmos 1887* (Connolly, J.P., Grindeland, R.E., Ballard, R.W., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 513-519, 1990. (NASA-TM-102254) (GWU 13138)

- Cann\*, C.E.  
Bones and stones in space: Integrating the medical and scientific questions.  
Paper presented at the 17th Intersociety Conference on Environmental Systems, Seattle, WA, July 13-15, 1987, 7 p. (SAE Paper 871465) (GWU 5892)
- Cann, C.E. (Genant, H.K. = P.I.)  
Low-dose CT scanning for quantitative spinal mineral analysis.  
*Radiology* 140(3): 813-815, 1981. (GWU 2588)
- Cann\*, C.E.  
Quantitative CT for determination of bone mineral density: A review.  
*Radiology* 166(2): 509-522, 1988. (GWU 14679)
- Cann\*, C.E.; Adachi, R.R.  
Bone resorption and mineral excretion in rats during spaceflight.  
*American Journal of Physiology* 244: R327-R331, 1983. (GWU 4163)
- Cann\*, C.E.; Adachi, R.R.  
K-317: Bone resorption in rats during spaceflight.  
In: *Final Reports of U.S. Rat Experiments Flown on the Soviet Satellite Cosmos 1129* (Heinrich, M.R., Souza, K.A., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 427-438, 1981. (NASA-TM-81289) (GWU 2423)
- Cann\*, C.E.; Adachi, R.R.; Holton\*, E.M.  
Bone resorption and calcium absorption in rats during spaceflight.  
*Physiologist* 23(6, Suppl.): S83-S86, 1980. (GWU 2444)
- Cann\*, C.E.; Adachi, R.R.; Morey-Holton\*, E.  
Bone resorption and calcium absorption in rats during spaceflight.  
In: *Advances in Physiological Sciences*, Vol. 19: Gravitational Physiology (Hideg, J., Gazenko, O., Eds.). New York: Pergamon, p. 121-127, 1981. (GWU 2037)
- Cann\*, C.E.; Arnaud\*, S.B.  
Calcium metabolism and correlated endocrine measurements in nonhuman primates during hypokinesia.  
In: *A 14-Day Ground-Based Hypokinesia Study in Nonhuman Primates - A Compilation of Results* (Kazarian, L., Cann, C., Parfitt, M., Simmons, D., Morey-Holton, E., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 29-33, 1981. (NASA-TM-81268) (GWU 3446)
- Cann, C.E.; Ettinger, B.; Genant\*, H.K.  
Normal subjects versus osteoporotics: No evidence using dual energy computed tomography for disproportionate increase in vertebral marrow fat (Abstract).  
*Journal of Computer Assisted Tomography* 9(3): 617-618, 1985. (GWU 7965)
- Cann, C.E.; Faul, D.D.; Couch, J.L.; Boyd, D.P.; Genant\*, H.K.  
Composition-selective measurement of mineral content in the axial and appendicular skeleton (Abstract).  
*Investigative Radiology* 16: 364, 1981. (GWU 2589)
- Cann, C.E.; Genant\*, H.K.  
Comparison of cancellous and integral spinal mineral loss in oophorectomized women using quantitative computed tomography (Abstract).  
*Calcified Tissue International* 33(3): 307, 1981. (GWU 4109)
- Cann, C.E.; Genant\*, H.K.  
Cross-sectional studies of vertebral mineral using quantitative computed tomography (Abstract).  
*Journal of Computer Assisted Tomography* 6(1): 216-217, 1982. (GWU 2587)



- Cann, C.E.; Genant\*, H.K.  
Single versus dual energy CT for vertebral mineral quantification (Abstract).  
*Journal of Computer Assisted Tomography* 7(3): 551-552, 1983. (GWU 5014)
- Cann, C.E.; Genant\*, H.K.; Ettinger, B.; Kolb, F.O.; Gordan, G.S.; Arnaud\*, C.D.  
Spinal mineral by computed tomography: Comparison with peripheral mineral in patients and controls (Abstract).  
*Calcified Tissue International* 31(1): 60, 1980. (GWU 3075)
- Cann, C.E.; Genant\*, H.K.; Kolb, F.O.  
Male idiopathic osteoporosis: Patterns of bone loss may indicate heterogeneity (Abstract).  
*Calcified Tissue International* 34(Suppl. 1): S28, 1982. (GWU 4291)
- Cann, C.E.; Genant\*, H.K.; Young\*, D.R.  
Comparison of vertebral and peripheral mineral losses in disuse osteoporosis in monkeys.  
*Radiology* 134(2): 525-529, 1980. (GWU 11)
- Cann\*, C.E.; Henzl, M.; Burry, K.; Andreyko, J.; Hanson, F.; Adamson, G.D.; Trobough, G.; Henrichs, L.; Stewart, G.  
Reversible bone loss is produced by the GnRH agonist nafarelin.  
In: *Calcium Regulation and Bone Metabolism: Basic and Clinical Aspects* (Cohn, D.V., Martin, T.J., Meunier, P.J., Eds.). Amsterdam, The Netherlands: Elsevier Science Publishers B.V., p. 123-127, 1987. (GWU 14680)
- Cann, C.E.; Martin, M.C.; Genant\*, H.K.; Jaffe, R.B.  
Decreased spinal mineral content in amenorrheic women.  
*Journal of the American Medical Association* 251(5): 626-629, 1984. (GWU 5305)
- Cann\*, C.E.; Patterson-Buckendahl, P.; Durnova, G.; Kaplansky, A.  
Experiment K-6-04: Trace element balance in rats during spaceflight.  
In: *Final Reports of the U.S. Experiments Flown on the Soviet Biosatellite Cosmos 1887* (Connolly, J.P., Grindeland, R.E., Ballard, R.W., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 151-155, 1990. (NASA-TM-102254) (GWU 13123)
- Carter\*, D.R.; Caler, W.E.; Harris, W.H.  
Resultant loads and elastic modulus calibration of long bone cross sections.  
*Journal of Biomechanics* 14(11): 739-745, 1981. (GWU 4441)
- Carter\*, D.R.; Fyhrie, D.P.; Whalen, R.T.  
Trabecular bone density and loading history: Regulation of connective tissue biology by mechanical energy.  
*Journal of Biomechanics* 20(8): 785-794, 1987. (GWU 9003)
- Carter\*, D.R.; Fyhrie, D.P.; Whalen, R.T.; Orr, T.E.; Schurman, D.J.; Rappert, D.J.  
Control of chondro-osseous skeletal biology by mechanical energy (Abstract).  
*Journal of Biomechanics* 20: 815, 1987. (GWU 9004)
- Cavanagh\*, P.  
Skeletal group.  
In: *Workshop on Exercise Prescription for Long-Duration Space Flight* (Harris, B.A., Jr., Stewart, D.F., Eds.). Houston, TX: NASA, Johnson Space Center, p. 121-123, 1989. (NASA-CP-3051) (GWU 9336)
- Cavanagh\*, P.R.  
Biomechanical perspectives on locomotion in null gravity.  
In: *Workshop on Exercise Prescription for Long-Duration Space Flight* (Harris, B.A., Jr., Stewart, D.F., Eds.). Houston, TX: NASA, Johnson Space Center, p. 61-67, 1989. (NASA-CP-3051) (GWU 9337)

- Cavanaugh, D.J.; Cann\*, C.E.  
Bone mineral content in postmenopausal females before and after a 52 week walking program (Abstract).  
*International Journal of Sports Medicine* 8: 237, 1987. (GWU 8996)
- Cavanaugh, D.J.; Cann\*, C.E.  
Brisk walking does not stop bone loss in postmenopausal women.  
*Bone* 9: 201-204, 1988. (GWU 14688)
- Chafetz, N.I.; Genant\*, H.K.; Moon, K.L.; Helms, C.A.; Morris, J.M.  
Recognition of lumbar disk herniation with NMR.  
*American Journal of Roentology* 141: 1153-1156, 1983. (GWU 5668)
- Chen, T.L.; Cone, C.M.; Morey-Holton\*, E.; Feldman, D.  
1 $\alpha$ ,25-dihydroxyvitamin D<sub>3</sub> receptors in cultured rat osteoblast-like cells.  
*Journal of Biological Chemistry* 258(7): 4350-4355, 1983. (GWU 4459)
- Chen, T.L.; Cone, C.M.; Morey-Holton\*, E.; Feldman, D.  
Glucocorticoid regulation of 1,25(OH)<sub>2</sub>-vitamin D<sub>3</sub> receptors in cultured mouse bone cells.  
*Journal of Biological Chemistry* 257(22): 13564-13569, 1982. (GWU 4398)
- Chesney, R.W.; Dabbagh, S.; Uehling, D.T.; DeLuca\*, H.F.  
The importance of early treatment of renal bone disease in children.  
*Kidney International* 28(Suppl. 17): S75-S78, 1985. (GWU 7805)
- Chesney, R.W.; Hamstra, A.; Rose, P.; DeLuca\*, H.F.  
Vitamin D and parathyroid hormone status in children with the nephrotic syndrome and chronic mild glomerulonephritis.  
*International Journal of Pediatric Nephrology* 5(1): 1-4, 1984. (GWU 6008)
- Chesney, R.W.; Hamstra, A.J.; DeLuca\*, H.F.  
Absence of seasonal fluctuation in serum concentration of 24,25(OH)<sub>2</sub>-vitamin D in childhood.  
*Calcified Tissue International* 34: 527-530, 1982. (GWU 4707)
- Chesney, R.W.; Hamstra, A.J.; Mazess\*, R.B.; Rose, P.; DeLuca\*, H.F.  
Circulating vitamin D metabolite concentrations in childhood renal diseases.  
*Kidney International* 21: 65-69, 1982. (GWU 4537)
- Chesney, R.W.; Hamstra, A.J.; Phelps, M.; DeLuca\*, H.F.  
Vitamin D metabolites in renal insufficiency and other vitamin D disorders of children.  
*Kidney International* 24(Suppl. 15): S63-S69, 1983. (GWU 5564)
- Chesney, R.W.; Mazess\*, R.B.; DeLuca\*, H.F.  
Long-term influence of calcitriol (1,25OH<sub>2</sub>D) and supplemental phosphate (PO<sub>4</sub>) in X-linked hypophosphatemic rickets (Abstract).  
*Clinical Research* 29(2): 403A, 1981. (GWU 637)
- Chesney, R.W.; Mazess\*, R.B.; Rose, P.; Hamstra, A.J.; DeLuca\*, H.F.; Breed, A.L.  
Long-term influence of calcitriol (1,25-dihydroxyvitamin D) and supplemental phosphate in X-linked hypophosphatemic rickets.  
*Pediatrics* 71(4): 559-567, 1983. (GWU 4688)
- Chesney, R.W.; Zimmerman, J.; Hamstra, A.; DeLuca\*, H.F.; Mazess\*, R.B.  
Vitamin D metabolite concentrations in vitamin D deficiency: Are calcitriol levels normal?  
*American Journal of Diseases of Children* 135: 1025-1028, 1981. (GWU 2524)

- Chow, S.Y.; Chow, Y.C.; Jee\*, W.S.S.; Woodbury\*, D.M.  
Electrophysiological properties of osteoblastlike cells from the cortical endosteal surface of rabbit long bones.  
*Calcified Tissue International* 36(4): 401-408, 1984. (GWU 7096)
- Clark, O.H.; Okerlund, M.D.; Moss, A.A.; Stark, D.; Norman, D.; Newton, T.H.; Duh, Q.Y.; Arnaud\*, C.D.; Harris, S.; Gooding, G.A.W.  
Localization studies in patients with persistent or recurrent hyperparathyroidism.  
*Surgery* 98(6): 1083-1094, 1985. (GWU 7708)
- Clark, S.A.; Dame, M.C.; Kim, Y.S.; Stumpf, W.E.; DeLuca\*, H.F.  
1,25-dihydroxyvitamin D<sub>3</sub> in teeth of rats and humans: Receptors and nuclear localization.  
*Anatomical Record* 212: 250-254, 1985. (GWU 7707)
- Curwin, S.L.; Vailas\*, A.C.; Wood, J.  
Immature tendon adaptation to strenuous exercise.  
*Journal of Applied Physiology* 65(5): 2297-2301, 1988. (GWU 11310)
- Dabbagh, S.; Noltén, W.; Chesney, R.; Lutz, J.; Lemann, J.; Slatopolsky, E.; DeLuca\*, H.  
Hypocalcemia is moderate in a kindred with autosomal dominant hypoparathyroidism, since serum 1,25(OH)<sub>2</sub>-vitamin D levels are normal (Abstract).  
*Calcified Tissue International* 36: 501, 1984. (GWU 7102)
- DeLuca\*, H.F.  
The cardinal role of 1,25-dihydroxyvitamin D<sub>3</sub> in mineral homeostasis.  
In: *Clinical Disorders of Bone and Mineral Metabolism* (Frame, B., Potts, J.T., Jr., Eds.). Amsterdam, The Netherlands: Excerpta Medica, p. 78-81, 1983. (GWU 5847)
- DeLuca\*, H.F.  
Vitamin D-dependent calcium transport (Abstract).  
*Journal of General Physiology* 82(6): 7a-8a, 1983. (GWU 5853)
- DeLuca\*, H.F.; Schnoes, H.K.  
Vitamin D: Recent advances.  
*Annual Reviews in Biochemistry* 52: 411-439, 1983. (GWU 5036)
- Di Ferrante\*, D.T.; Wilson, N.Y.; Leach\*, C.S.  
Chromatographic method for the measurement of hydroxylysine, hydroxylysine glycosides and 3-methylhistidine in human urine.  
*Journal of Chromatography* 187(1): 271-276, 1980. (GWU 1600)
- Dillaman\*, R.M.; Roer, R.D.  
Correlated light and electron microscopy of the vasculature of cortical bone in rat femora and tibiae.  
*Physiologist* 28(6): S65-S66, 1985. (GWU 7725)
- Dillaman\*, R.M.; Roer, R.D.  
Correlated light and electron microscopy of the vasculature of cortical bone in rat femora and tibiae (Abstract).  
*Physiologist* 28(4): 287, 1985. (GWU 7749)
- Dillaman\*, R.M.; Roer, R.D.; Rutherford, E.  
Fluid dynamics in bone (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 227-228. (GWU 9928)
- Dobbins, J.T., III; Mazess\*, R.B.; Cameron, J.R.  
Scanning-slit X-ray videoabsorptiometry for measurement of bone-mineral content (Abstract).  
*Medical Physics* 8(4): 563, 1981. (GWU 4828)

- Dooms, G.C.; Fisher, M.R.; Hricak, H.; Richardson, M.; Crooks, L.E.; Genant\*, H.K.  
Bone marrow imaging: Magnetic resonance studies related to age and sex.  
*Radiology* 155(2): 429-432, 1985. (GWU 6480)
- Doppelt, S.H.; Neer\*, R.M.; Potts, J.T., Jr.  
Human parathyroid hormone 1-34-mediated hypercalcemia in a rat model, and its inhibition by dichloromethane diphosphonate.  
*Calcified Tissue International* 33: 649-654, 1981. (GWU 4502)
- Doppelt, S.H.; Slovik, D.M.; Neer\*, R.M.; Nolan, J.; Zusman, R.M.; Potts, J.T., Jr.  
Gut-mediated hypercalcemia in rabbits bearing VX<sub>2</sub> carcinoma: New mechanism for tumor-induced hypercalcemia.  
*Proceedings of the National Academy of Sciences USA* 79: 640-644, 1982. (GWU 5240)
- Dorwart, R.H.; Genant\*, H.K.  
Anatomy of the lumbosacral spine.  
*Radiologic Clinics of North America* 21(2): 201-220, 1983. (GWU 5574)
- Ellis\*, S.  
*Stimulation of Body Weight Increase and Epiphyseal Cartilage Growth by Insulin-Like Growth Factor*.  
Moffett Field, CA: NASA, Ames Research Center, 15 p., 1982. (NASA-TM-84285) (GWU 4697)
- Ettinger, B.; Genant\*, H.K.; Cann\*, C.E.  
Bone mineral assessment: A practical guide for primary care physicians.  
In: *Climacteric in Perspective* (Notelovitz, M., Van Keep, P., Eds.). Boston, MA: MTP Press, p. 95-104, 1986. (GWU 8003)
- Ettinger, B.; Genant\*, H.K.; Cann, C.E.  
Long-term estrogen replacement therapy prevents bone loss and fractures.  
*Annals of Internal Medicine* 102(3): 319-324, 1985. (GWU 7111)
- Eurell, J.A.; Kazarian\*, L.E.  
Quantitative histochemistry of rat lumbar vertebrae following spaceflight.  
*American Journal of Physiology* 244: R315-R318, 1983. (GWU 4165)
- Faugere, M.C.; Malluche, H.H.; Okamoto, S.; DeLuca\*, H.F.  
1,25(OH)<sub>2</sub>D<sub>3</sub> reverses bone loss due to oophorectomy (Abstract).  
*Calcified Tissue International* 35(Suppl.): A10, 1983. (GWU 4838)
- Fiorotto, M.L.; Sheng, H.-P.; Evans, H.J.; LeBlanc\*, A.D.; Johnson\*, P.C.; Nichols, B.L.  
Specific effects of weight loss, protein deficiency and energy deprivation on the water and electrolyte composition of young rats.  
*Journal of Nutrition* 117(5): 933-940, 1987. (GWU 8174)
- France, E.P.; Oloff, C.M.; Kazarian\*, L.E.  
Bone mineral analysis of rat vertebra following space flight: Cosmos 1129 (Abstract).  
*Physiologist* 25(4): 302, 1982. (GWU 3884)
- Franceschi, R.T.; DeLuca\*, H.F.; Mercado, D.L.  
Temperature-dependent inactivation of nucleic acid binding and aggregation of the 1,25-dihydroxyvitamin D<sub>3</sub> receptor.  
*Archives of Biochemistry and Biophysics* 222(2): 504-517, 1983. (GWU 5081)
- Furuta, Y.; Jee\*, W.S.S.  
Effect of 16,16-dimethyl prostaglandin E<sub>2</sub> methyl ester on weanling rat skeleton: Daily and systemic administration.  
*Anatomical Record* 215: 305-316, 1986. (GWU 7680)

- Gallagher, J.C.; Jerpak, C.M.; Jee\*, W.S.S.; Johnson, K.A.; DeLuca\*, H.F.; Riggs, B.L.  
1,25-dihydroxyvitamin D<sub>3</sub>: Short- and long-term effects on bone and calcium metabolism in patients with postmenopausal osteoporosis.  
*Proceedings of the National Academy of Sciences USA* 79: 3325-3329, 1982. (GWU 4556)
- Genant\*, H.; Boyd, D.; Rosenfeld, D.; Abols, Y.; Cann, C.E.  
Computed tomography.  
In: *Non-Invasive Measurements of Bone Mass and Their Clinical Application* (Cohn, S.H., Ed.). Boca Raton, FL: CRC Press, p. 121-149, 1981. (GWU 3227)
- Genant\*, H.K.  
Assessing osteoporosis: CT's quantitative advantage.  
*Diagnostic Imaging* August: 52-57, 1985. (GWU 7123)
- Genant\*, H.K.  
Osteoporosis. Part I: Advanced radiologic assessment using quantitative computed tomography.  
*Western Journal of Medicine* 139(1): 75-84, 1983. (GWU 4913)
- Genant\*, H.K. (Ed.)  
*Osteoporosis: Update 1987*. Berkeley, CA: University of California Press, 1987.
- Genant\*, H.K.  
Quantitative computed tomography for assessing metabolic bone diseases.  
In: *CT'82 Internationales Computertomographie Symposium* (Lissner, J., Doppman, J.L., Eds.). Konstanz, Germany: Schnetztor-Verlag, p. 131-143, 1982. (GWU 4360)
- Genant\*, H.K.; Block, J.E.; Steiger, P.; Glueer, C.C.; Ettinger, B.; Harris, S.T.  
Appropriate use of bone densitometry.  
*Radiology* 170: 817-822, 1989. (GWU 10358)
- Genant\*, H.K.; Cann, C.E.  
Quantitative computed tomography for assessing vertebral bone mineral.  
In: *Computed Tomography of the Lumbar Spine: Diagnostic and Therapeutic Implications for the Radiologist, Orthopedist, and Neurosurgeon* (Genant, H.K., Chafetz, N., Helms, C.A., Eds.). San Francisco, CA: University of California, p. 289-314, 1982. (GWU 4359)
- Genant\*, H.K.; Cann, C.E.; Boyd\*, D.P.; Kolb, F.O.; Ettinger, B.; Gordan, G.S.  
Quantitative computed tomography for vertebral mineral determination.  
In: *Clinical Disorders of Bone and Mineral Metabolism* (Frame, B., Potts, J.T., Jr., Eds.). Amsterdam, The Netherlands: Excerpta Medica, p. 40-47, 1983. (GWU 5844)
- Genant\*, H.K.; Cann, C.E.; Chafetz, N.I.; Helms, C.A.  
Advances in computed tomography of the musculoskeletal system.  
*Radiologic Clinics of North America* 19(4): 645-674, 1981. (GWU 3685)
- Genant\*, H.K.; Cann, C.E.; Ettinger, B.; Gordan, G.S.  
Bone mineral determination in the axial and appendicular skeleton of oophorectomized women (Abstract).  
In: *Program and Abstracts, 62nd Annual Meeting of the Endocrine Society*, Washington, DC, June 18-20, 1980, p. 290. (GWU 1437)
- Genant\*, H.K.; Cann, C.E.; Ettinger, B.; Gordan, G.S.  
Determination of bone mineral loss in the axial skeleton of oophorectomized women using quantitative computed tomography (Abstract).  
*Journal of Computer Assisted Tomography* 6(1): 217-218, 1982. (GWU 4171)

- Genant\*, H.K.; Cann, C.E.; Ettinger, B.; Gordan, G.S.  
Spinal bone mineral loss assessed by quantitative computed tomography (CT) (Abstract).  
Abstract of a paper presented at the 15th International Congress of Radiology, Brussels, Belgium, June 24-July 1, 1981, 1 p. (GWU 2590)
- Genant\*, H.K.; Cann, C.E.; Ettinger, B.; Gordan, G.S.; Kolb, F.O.; Reiser, U.; Arnaud\*, C.D.  
Quantitative computed tomography for spinal mineral assessment: Current status.  
*Journal of Computer Assisted Tomography* 9(3): 602-604, 1985. (GWU 7124)
- Genant\*, H.K.; Cann, C.E.; Faul, D.D.  
Quantitative computed tomography for assessing vertebral bone mineral.  
In: *Non-Invasive Bone Measurements: Methodological Problems* (Dequeker, J., Johnston, C.C., Jr., Eds.). Eynsham, UK: IRL, p. 215-255, 1983.
- Genant\*, H.K.; Cann, C.E.; Pozzi-Mucelli, R.S.; Kanter, A.S.  
Vertebral mineral determination by quantitative CT: Clinical feasibility and normative data (Abstract).  
*Journal of Computer Assisted Tomography* 7(3): 554, 1983. (GWU 5013)
- Genant\*, H.K.; Ettinger, B.; Cann, C.E.; Reiser, U.; Gordan, G.S.; Kolb, F.O.  
Osteoporosis: Assessment by quantitative computed tomography.  
*Orthopedic Clinics of North America* 16(3): 557-568, 1985. (GWU 7122)
- Genant\*, H.K.; Powell, M.R.; Cann, C.E.; Stebler, B.; Rutt, B.K.; Richardson, M.L.; Kolb, F.O.  
Comparison of methods for in vivo spinal bone mineral measurement (Abstract).  
*Journal of Computer Assisted Tomography* 9(3): 630-631, 1985. (GWU 8044)
- Genant\*, H.K.; Steiger, P.; Block, J.E.; Glueer, C.C.; Ettinger, B.; Harris, S.T.  
Quantitative computed tomography: Update 1987.  
*Calcified Tissue International* 41: 179-186, 1987. (GWU 10353)
- Genant\*, H.K.; Turski, P.A.; Moss, A.A.  
Advances in CT assessment of metabolic and endocrine disorders.  
*Advances in Internal Medicine* 28: 409-447, 1983. (GWU 5549)
- Gies, A.A.; Carter\*, D.R.  
Experimental determination of whole long bone sectional properties.  
*Journal of Biomechanics* 15(4): 297-303, 1982. (GWU 4546)
- Gillespy, T., III; Contreras, L.N.; Tyrrell, J.B.; Genant\*, H.K.  
Clinical, biochemical and bone density parameters in Cushing's disease (Abstract).  
*Investigative Radiology* 20(6): 529, 1985. (GWU 8043)
- Gleeson, P.B.; Protas, E.J.; LeBlanc\*, A.D.; Schneider\*, V.S.; Evans, H.J.  
Effects of weight lifting on bone mineral density in premenopausal women.  
*Journal of Bone and Mineral Research* 5(2): 153-158, 1990. (GWU 12370)
- Globus, A.; Morey-Holton\*, E.  
Computer-assisted image analysis of cross-sectional bone growth (Abstract).  
*Calcified Tissue International* 34(Suppl.): S7, 1982. (GWU 4037)
- Globus, R.K.; Bikle\*, D.D.; Halloran\*, B.; Morey-Holton\*, E.  
Skeletal response to dietary calcium in a rat model simulating weightlessness.  
*Journal of Bone and Mineral Research* 1(2): 191-197, 1986. (GWU 7822)
- Globus, R.K.; Bikle\*, D.D.; Halloran\*, B.P.; Holton\*, E.M.  
Effects of dietary calcium on skeletal response to unweighting (Abstract).  
*Clinical Research* 33(1): 102A, 1985. (GWU 6424)

- Globus, R.K.; Bikle\*, D.D.; Morey-Holton\*, E.  
Effects of simulated weightlessness on bone mineral metabolism.  
*Endocrinology* 114(6): 2264-2270, 1984. (GWU 6040)
- Glüer, C.-C.; Reiser, U.J.; Davis, C.A.; Rutt, B.K.; Genant\*, H.K.  
Vertebral mineral determination by quantitative computed tomography (QCT): Accuracy of single and dual energy measurements.  
*Journal of Computer Assisted Tomography* 12(2): 242-258, 1988. (GWU 10357)
- Glüer, C.C.; Steiger, P.; Selvidge, R.; Elliesen-Kliefoth, K.; Hayashi, C.; Genant\*, H.K.  
Comparative assessment of dual-photon absorptiometry and dual-energy radiography.  
*Radiology* 174(1): 223-228, 1990. (GWU 13687)
- Goode, A.W.; Rambaut\*, P.C.  
The skeleton in space.  
*Nature* 317(6034): 204-205, 1985. (GWU 6975)
- Gordan, G.S.; Genant\*, H.K.  
Ageing of bone in the two sexes.  
In: *Steroid Modulation of Neuroendocrine Function: Sterols, Steroids and Bone Metabolism* (Martini, L., Gordan, G.S., Sciarra, F., Eds.). Amsterdam, The Netherlands: Elsevier Science Publisher B.V., p. 139-153, 1984. (GWU 7888)
- Gordan, G.S.; Genant\*, H.K.  
The aging skeleton.  
*Clinics in Geriatric Medicine* 1(1): 95-118, 1985. (GWU 8002)
- Gould, R.G.; Genant\*, H.K.  
Quantitative and qualitative comparison of two microfocus-tube imaging systems.  
*Radiology* 138: 195-201, 1981. (GWU 1436)
- Graham, L.; Mechanic\*, G.L.  
[<sup>14</sup>C]Acrylonitrile: Preparation via a stable tosylate intermediate and quantitative reaction with amine residues in collagen.  
*Analytical Biochemistry* 153: 354-358, 1986. (GWU 7473)
- Hall, G.E.; Kenny\*, A.D.  
Role of carbonic anhydrase in bone resorption induced by 1,25 dihydroxyvitamin D<sub>3</sub> *in vitro*.  
*Calcified Tissue International* 37: 134-142, 1985. (GWU 6490)
- Hall, G.E.; Kenny\*, A.D.  
Role of carbonic anhydrase in bone resorption induced by prostaglandin E<sub>2</sub> *in vitro*.  
*Pharmacology* 36(6): 339-347, 1985. (GWU 7319)
- Halloran\*, B.P.; Bikle\*, D.D.; Levens, M.J.; Castro, M.E.; Globus, R.K.; Holton\*, E.  
Chronic 1,25-dihydroxyvitamin D<sub>3</sub> administration in the rat reduces the serum concentration of 25-hydroxyvitamin D by increasing metabolic clearance rate.  
*Journal of Clinical Investigation* 78(1): 622-628, 1986. (GWU 5882)
- Halloran\*, B.P.; Bikle\*, D.D.; Wronski, T.J.; Globus, R.; Levens, M.J.; Morey-Holton\*, E.M.  
Effect of simulated weightlessness and chronic 1,25(OH)<sub>2</sub>D administration on bone metabolism (Abstract).  
*Physiologist* 28(4): 311, 1985. (GWU 7037)
- Halloran\*, B.P.; Bikle\*, D.D.; Wronski, T.J.; Globus, R.K.; Levens, M.J.; Morey-Holton\*, E.  
Effect of simulated weightlessness and chronic 1,25-dihydroxyvitamin D administration on bone metabolism.  
*Physiologist* 28(6, Suppl.): S127-S128, 1985. (GWU 6900)

- Harris, B.A.; Silver, B.; Greenleaf\*, J.E.; Arnaud\*, S.B.  
Alterations in intracellular calcium during bedrest with and without exercise (Abstract).  
*Journal of Bone and Mineral Research* 2(Suppl. 1): 539, 1987. (GWU 10745)
- Harris, S.T.; Neer\*, R.M.; Segre, G.V.; Tully, G.; Potts, J.T., Jr.  
Secondary hyperparathyroidism complicating dichloromethane diphosphonate treatment of Paget's disease (Abstract).  
*Calcified Tissue International* 33(3): 309, 1981. (GWU 3422)
- Helms, C.A.; Cann, C.E.; Brunelle, F.O.; Gilula, L.A.; Chafetz, N.; Genant\*, H.K.  
Detection of bone-marrow metastases using quantitative computed tomography.  
*Radiology* 140(3): 745-750, 1981. (GWU 4463)
- Heuck, A.F.; Block, J.; Glueer, C.-C.; Steiger, P.; Genant\*, H.K.  
Mild versus definite osteoporosis: Comparison of bone densitometry techniques using different statistical models.  
*Journal of Bone and Mineral Research* 4(6): 891-900, 1989. (GWU 13684)
- Hill, E.L.; Arnaud\*, S.B.; Fung, P.; Cone, C.; Morey-Holton\*, E.  
The effect of sympathectomy, capsaicin denervation, and tail-suspension on plasma calcitonin levels in rats (Abstract).  
*Journal of Bone and Mineral Research* 5(Suppl. 2): S186, 1990. (GWU 13969)
- Hill, E.L.; Cone, C.M.; Martin\*, R.B.; Arnaud\*, S.B.; Fung, P.; Morey-Holton\*, E.  
Effect of sympathectomy and capsaicin denervation on skeletal and calcitonin changes in response to tail-suspension (Abstract).  
*Society for Neuroscience Abstracts* 16(1): 867, 1990. (GWU 14139)
- Holton\*, E.  
Bone and calcium alterations during spaceflight.  
In: *The Regulatory Functions of Calcium and the Potential Role of Calcium in Mediating Gravitational Responses in Cells and Tissues* (Roux, S.J., Ed.). Washington, DC: NASA Headquarters, p. 111-126, 1983. (NASA-CP-2286) (GWU 5522)
- Holton\*, E.M.  
Effects of weightlessness on bone and muscle of rats.  
In: *Space Gerontology* (Miquel, J., Economos, A.C., Eds.). Washington, DC: NASA Headquarters, p. 59-66, 1982. (NASA-CP-2248) (GWU 12033)
- Honma, Y.; Hozumi, M.; Abe, E.; Konno, K.; Fukushima, M.; Hata, S.; Nishii, Y.; DeLuca\*, H.F.; Suda, T.  
1 $\alpha$ ,25-dihydroxyvitamin D<sub>3</sub> and 1 $\alpha$ -hydroxyvitamin D<sub>3</sub> prolong survival time of mice inoculated with myeloid leukemia cells.  
*Proceedings of the National Academy of Sciences USA* 80: 201-204, 1983. (GWU 4615)
- Jarnagin, K.; Zeng, S.-Y.; Phelps, M.; DeLuca\*, H.F.  
Metabolism and pharmacokinetics of 24,25-dihydroxyvitamin D<sub>3</sub> in the vitamin D<sub>3</sub>-replete rat.  
*Journal of Biological Chemistry* 260(25): 13625-13630, 1985. (GWU 7711)
- Jee\*, W.S.S.  
Augmentation of bone mass in osteoporosis.  
In: *Bone Morphometry* (Takahashi, H.E., Ed.). Niigata, Japan: Nishimura Co., p. 543-548, 1990. (GWU 13571)
- Jee\*, W.S.S.  
The dynamic nature of the weight-bearing function of the skeleton (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 229. (GWU 9984)



- Jee\*, W.S.S.  
Local and systemic factors influencing bone formation.  
In: *Bone Morphometry* (Takahashi, H.E., Ed.). Niigata, Japan: Nishimura Co., p. 284-289, 1990. (GWU 13570)
- Jee\*, W.S.S.; Inoue, J.; Jee, K.W.; Haba, T.  
Histomorphometric assay of the growing long bone.  
In: *Handbook of Bone Morphometry* (Takahashi, H., Ed.). Japan: Nishimura Co., p. 101-124, 1983. (GWU 6124)
- Jee\*, W.S.S.; Kimmel, D.B.; Smith, C.; Dell, R.B.  
K-305: Quantitative analysis of selected bone parameters. Supplemental Report 2: Bone elongation rate and bone mass in metaphysis of long bones.  
In: *Final Reports of U.S. Rat Experiments Flown on the Soviet Satellite Cosmos 1129* (Heinrich, M.R., Souza, K.A., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 149-175, 1981. (GWU 2421)
- Jee\*, W.S.S.; Li, X.J.  
Adaptation of cancellous bone to overloading in the adult rat: A single photon absorptiometry and histomorphometry study.  
*Anatomical Record* 227: 418-426, 1990. (GWU 13452)
- Jee\*, W.S.S.; Li, X.J.  
Small animal models for studying prevention and treatment of osteoporosis.  
In: *Bone Morphometry* (Takahashi, H.E., Ed.). Niigata, Japan: Nishimura Co., p. 549-554, 1990. (GWU 13572)
- Jee\*, W.S.S.; Miller, S.C.; Black, H.E.  
The effects of diphosphonates on bone resorption and corticosteroid-induced bone loss.  
In: *Diphosphonates and Bone* (Donath, A., Courvoisier, B., Eds.). Geneva, Switzerland: Editions Médecine et Hygiène, p. 132-153, 1982. (GWU 6131)
- Jee\*, W.S.S.; Mori, S.; Li, X.J.; Chan, S.  
Prostaglandin E<sub>2</sub> enhances cortical bone mass and activates intracortical bone remodeling in intact and ovariectomized female rats.  
*Bone* 11: 253-266, 1990. (GWU 13456)
- Jee\*, W.S.S.; Parfitt, A.M. (Eds.)  
*Bone Histomorphometry*. New York: Academic Press, 505 p., 1980. (Metabolic Bone Disease & Related Research, Vol. S2) (GWU 4227)
- Jee\*, W.S.S.; Smith, J.M.  
Image analysis of calcified tissues.  
In: *Methods of Calcified Tissue Preparation* (Dickson, G.R., Ed.). New York: Elsevier Science Publishers B.V., p. 673-696, 1984. (GWU 6115)
- Jee\*, W.S.S.; Ueno, K.; Deng, Y.P.; Woodbury, D.M.  
The effects of prostaglandin E<sub>2</sub> in growing rats: Increased metaphyseal hard tissue and cortico-endosteal bone formation.  
*Calcified Tissue International* 37: 148-157, 1985. (GWU 6479)
- Jee\*, W.S.S.; Ueno, K.; Kimmel, D.B.; Woodbury, D.M.; Price, P.; Woodbury, L.A.  
The role of bone cells in increasing metaphyseal hard tissue in rapidly growing rats treated with prostaglandin E<sub>2</sub>.  
*Bone* 8(3): 171-178, 1987. (GWU 8075)
- Jee\*, W.S.S.; Wronski, T.J.; Morey\*, E.R.; Kimmel, D.B.  
Effects of spaceflight on trabecular bone in rats.  
*American Journal of Physiology* 244: R310-R314, 1983. (GWU 4166)

- Jergesen, H.E.; Heller, M.; Genant\*, H.K.  
Signal variability in magnetic resonance imaging of femoral head osteonecrosis.  
*Clinical Orthopaedics and Related Research* 253: 137-149, 1990. (GWU 13994)
- Jergesen, H.E.; Lang, P.; Moseley, M.; Genant\*, H.K.  
Histologic correlation in magnetic resonance imaging of femoral head osteonecrosis.  
*Clinical Orthopaedics and Related Research* 253: 150-163, 1990. (GWU 13993)
- Jones, C.D.; Laval-Jeantet, A.-M.; Laval-Jeantet, M.H.; Genant\*, H.K.  
Importance of measurement of spongy vertebral bone mineral density in the assessment of osteoporosis.  
*Bone* 8: 201-206, 1987. (GWU 10352)
- Judy, M.M. (Jee, W.S.S. = P.I.)  
K-305: Quantitative analysis of selected bone parameters. Supplemental Report 3A: Trabecular spacing and orientation in the long bones.  
In: *Final Reports of U.S. Rat Experiments Flown on the Soviet Satellite Cosmos 1129* (Heinrich, M.R., Souza, K.A., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 177-198, 1981. (NASA-TM-81289) (GWU 2428)
- Judy, M.M.; LeConey, T.R.; Matthews, J.L.; Jee\*, W.S.S.  
Measurement of trabecular spacing and orientation by optical diffraction.  
*Metabolic Bone Disease and Related Research* 2(Suppl.): 291-295, 1980. (GWU 2606)
- Karpf, D.B.; Arnaud\*, C.D.; Bambino, T.; Duffy, D.; King, K.L.; Winer, J.; Nissenson, R.A.  
Structural properties of the renal parathyroid hormone receptor: Hydrodynamic analysis and protease sensitivity.  
*Endocrinology* 123(6): 2611-2620, 1988. (GWU 11339)
- Karpf, D.B.; Arnaud\*, C.D.; King, K.; Bambino, T.; Winer, J.; Nyireddy, K.; Nissenson, R.A.  
The canine renal parathyroid hormone receptor is a glycoprotein: Characterization and partial purification.  
*Biochemistry* 26: 7825-7833, 1987. (GWU 11338)
- Kazarian\*, L.; Cann\*, C.; Parfitt, M.; Simmons\*, D.; Morey-Holton\*, E.  
*A 14-Day Ground-Based Hypokinesia Study in Nonhuman Primates: A Compilation of Results*. Moffett Field, CA: NASA, Ames Research Center, 63 p., 1981. (NASA-TM-81268) (GWU 1306)
- Kazarian\*, L.E.  
K-307: Vertebral body strength of rat spinal columns.  
In: *Final Reports of U.S. Rat Experiments Flown on the Soviet Satellite Cosmos 1129* (Heinrich, M.R., Souza, K.A., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 229-266, 1981. (NASA-TM-81289) (GWU 2426)
- Kazarian\*, L.E.; von Gierke, H.E.; Eurell, J.A.; Smith-Lagnese, S.D.  
Vertebral strength investigations following space flight: Cosmos 1129 (Abstract).  
*Pflügers Archiv* 391(Suppl.): R66, 1981. (GWU 1601)
- Kenny\*, A.D.  
Inhibition of disuse atrophy of bone in rats by continuous subcutaneous infusion of benzolamide (Abstract).  
*Calcified Tissue International* 31(1): 53, 1980. (GWU 1843)
- Kim, Y.S.; Clark, S.A.; Stumpf, W.E.; DeLuca\*, H.F.  
Nuclear uptake of 1,25-dihydroxyvitamin D<sub>3</sub> in developing rodent teeth: An autoradiographic study.  
*Anatomical Record* 212: 301-306, 1985. (GWU 7712)
- Kingsley, R.J.; Tsuzaki, M.; Watabe, N.; Mechanic\*, G.L.  
Collagen in the spicule organic matrix of the gorgonian *Leptogorgia virgulata*.  
*Biological Bulletin* 179(2): 207-213, 1990. (GWU 13945)

- Krebs, J.; Schneider\*, V.; Smith, J.; LeBlanc\*, A.; Thornton\*, W.; Leach\*, C.  
Sweat calcium loss during running (Abstract).  
*FASEB Journal* 2(6): A1099, 1988. (GWU 9348)
- Krebs, J.M.; Schneider\*, V.S.; Evans, H.; Kuo, M.C.; LeBlanc\*, A.D.  
Energy absorption, lean body mass, and total body fat changes during 5 weeks of continuous bed rest.  
*Aviation, Space, and Environmental Medicine* 61(4): 314-318, 1990. (GWU 13462)
- Krebs, J.M.; Schneider\*, V.S.; LeBlanc\*, A.D.  
Zinc, copper, and nitrogen balances during bed rest and fluoride supplementation in healthy adults males.  
*American Journal of Clinical Nutrition* 47: 509-514, 1988. (GWU 10616)
- Kuboki, Y.; Takagi, T.; Shimokawa, H.; Oguchi, H.; Sasaki, S.; Mechanic\*, G.L.  
Location of an intermolecular crosslink in bovine bone collagen.  
*Connective Tissue Research* 9: 107-114, 1981. (GWU 4789)
- Kuttan, R.; Di Ferrante\*, N.  
Sirius red-collagen interaction: A method for the measurement of collagen and bacterial collagenase activity.  
*Biochemistry International* 1(5): 455-462, 1980. (GWU 2460)
- Kuttan, R.; Wilson, N.; Tenni, R. (Di Ferrante, N. = P.I.)  
Determination of  $\gamma$ -carboxyglutamic acid excretion in urine.  
*Journal of Chromatography* 223: 182-187, 1981. (GWU 2476)
- Lacy\*, J.L.; Ball, M.E.; Verani, M.S.; Wiles, H.B.; Babich, J.W.; LeBlanc\*, A.D.; Stabin, M.; Bolomey, L.; Roberts, R.  
An improved tungsten-178/tantalum-178 generator system for high volume clinical applications.  
*Journal of Nuclear Medicine* 29(9): 1526-1538, 1988. (GWU 8613)
- Laval-Jeantet, A.M.; Cann, C.E.; Genant\*, H.K.  
Methods and problems in quantifying bone mineral of appendicular skeleton using commercial CT scanning (Abstract).  
*Journal of Computer Assisted Tomography* 7(3): 552-553, 1983. (GWU 5015)
- Laval-Jeantet, A.M.; Cann, C.E.; Roger, B.; Dallant, P. (Genant, H.K. = P.I.)  
A postprocessing dual energy technique for vertebral CT densitometry.  
*Journal of Computer Assisted Tomography* 8(6): 1164-1167, 1984. (GWU 8045)
- LeBlanc\*, A.; Evans, H.; Jhingran, S.; Johnson\*, P.  
High resolution bone mineral densitometry with a gamma camera.  
*Physics in Medicine and Biology* 29(1): 25-30, 1984. (GWU 5550)
- LeBlanc\*, A.; Marsh, C.; Driscoll\*, T.  
Skeletal uptake of Tc-99m labelled MDP in rats suspended to simulate spaceflight.  
In: *Preprints of 1982 Annual Scientific Meeting, Aerospace Medical Association*, Bal Harbour, FL, May 10-13, 1982. Washington, DC: Aerospace Medical Association, p. 198-199, 1982. (GWU 3039)
- LeBlanc\*, A.; Marsh, C.; Spira, M.; Schneider\*, V.; Johnson\*, P.; Jhingran, S.  
The effect of clomiphene on disuse bone loss (Abstract).  
*Journal of Nuclear Medicine* 25(5): P77, 1984. (GWU 7171)
- LeBlanc\*, A.; Schneider\*, V.  
Bone changes in space.  
Abstract of a paper presented at the Annual Meeting of the American Institute of Aeronautics and Astronautics, Huntsville, AL, September 25-27, 1990.

- LeBlanc\*, A.; Schneider\*, V.  
Prevention of bone loss during weightlessness.  
Abstract presented at the 37th Annual Meeting of the American College of Sports Medicine, Salt Lake City, UT, May 22-25, 1990.
- LeBlanc\*, A.; Schneider\*, V.; Engelbretson, D.; Evans, H.; Jhingran, S.  
Precision of regional bone mineral analysis from whole body scanning (Abstract).  
*Journal of Nuclear Medicine* 30(5): 775, 1989. (GWU 14669)
- LeBlanc\*, A.; Schneider\*, V.; Krebs, J.; Evans, H.; Jhingran, S.; Johnson\*, P.  
Spinal bone mineral after 5 weeks of bed rest.  
*Calcified Tissue International* 41: 259-261, 1987. (GWU 10617)
- LeBlanc\*, A.D.; Evans, H.J.; Johnson\*, P.C.; Jhingran, S.  
Changes in total body calcium balance with exercise in the rat.  
*Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 55(1): 201-204, 1983. (GWU 5207)
- LeBlanc\*, A.D.; Evans, H.J.; Johnson\*, P.C.; Loeffler, S.H.  
Partial body activation analysis using a californium-252 source.  
In: *Proceedings of the Fourth International Conference on Bone Measurement*, University of Toronto, Ontario, Canada, June 1-3, 1978 (Mazess, R.B., Ed.). Bethesda, MD: U.S. Department of Health and Human Services, p. 379-385, 1980. (NIH Publ. 80-1938) (GWU 1803)
- LeBlanc\*, A.D.; Evans, H.J.; Marsh, C.; Schneider\*, V.; Johnson\*, P.C.; Jhingran, S.G.  
Precision of dual photon absorptiometry measurements.  
*Journal of Nuclear Medicine* 27(8): 1362-1365, 1986. (GWU 7431)
- LeBlanc\*, A.D.; Schneider\*, V.S.; Engelbretson, D.A.; Evans, H.J.  
Precision of regional bone mineral measurements obtained from total-body scans.  
*Journal of Nuclear Medicine* 31(1): 43-45, 1990. (GWU 13552)
- LeBlanc\*, A.D.; Schneider\*, V.S.; Evans, H.J.; Engelbretson, D.A.; Krebs, J.M.  
Bone mineral loss and recovery after 17 weeks of bed rest.  
*Journal of Bone and Mineral Research* 5(8): 843-850, 1990. (GWU 13520)
- LeBlanc\*, A.D.; Schonfeld, E.; Schneider\*, V.S.; Evans, H.J.; Taber, K.H.  
The spine: Changes in T2 relaxation times from disuse.  
*Radiology* 169(1): 105-107, 1988. (GWU 10486)
- Levin, K.E.; Gooding, G.A.W.; Okerlund, M.; Higgins, C.B.; Norman, D.; Newton, T.H.; Duh, Q.Y.; Arnaud\*, C.D.; Siperstein, A.E.; Zeng, Q.H.; Clark, O.H.  
Localizing studies in patients with persistent or recurrent hyperparathyroidism.  
*Surgery* 102(6): 917-925, 1987. (GWU 11349)
- Li, X.J.; Jee\*, W.S.S.; Chow, S.-Y.; Woodbury, D.M.  
Adaptation of cancellous bone to aging and immobilization in the rat: A single photon absorptiometry and histomorphometry study.  
*Anatomical Record* 227(1): 12-24, 1990. (GWU 13454)
- Li, X.J.; Jee\*, W.S.S.; Li, Y.L.  
Flurbiprofen enhances growth and cancellous and cortical bone accumulation in rapidly growing long bones.  
*Bone* 10: 35-44, 1989. (GWU 13409)
- Li, X.J.; Jee\*, W.S.S.; Li, Y.L.; Patterson-Buckendahl, P.  
Transient effects of subcutaneously administered prostaglandin E<sub>2</sub> on cancellous and cortical bone in young adult dogs.  
*Bone* 11(5): 353-364, 1990. (GWU 13453)

- Lian, J.B.; Boivin, G.; Patterson-Allen, P.; Grynpas, M.; Walzer, C. (Callahan, P.X. = P.I.)  
Calcein and calciphylaxis: Timed appearance of  $\gamma$ -carboxyglutamic acid and osteocalcin in mineral deposits.  
*Calcified Tissue International* 35: 555-561, 1983. (GWU 5426)
- Lindgren, J.U.; Luca\*, H.F.  
Oral 1,25(OH) $_2$ D $_3$ : An effective prophylactic treatment for glucocorticoid osteopenia in rats.  
*Calcified Tissue International* 35(1): 107-110, 1983. (GWU 4705)
- Lindgren, J.U.; Johnell, O.; DeLuca\*, H.F.  
Studies of bone tissue in rats treated by prednisolone and 1,25-(OH) $_2$ D $_3$ .  
*Clinical Orthopaedics and Related Research* 181: 264-268, 1983. (GWU 5580)
- Lindgren, J.U.; Merchant, C.R.; DeLuca\*, H.F.  
Effect of 1,25-dihydroxyvitamin D $_3$  on osteopenia induced by prednisolone in adult rats.  
*Calcified Tissue International* 34: 253-257, 1982. (GWU 4452)
- Loitz, B.J.; Zernicke, R.F.; Vailas\*, A.C.; Kody, M.H.; Meals, R.A.  
Effects of short-term immobilization *versus* continuous passive motion on the biomechanical and biochemical properties of the rabbit tendon.  
*Clinical Orthopaedics and Related Research* 244: 265-271, 1989. (GWU 14681)
- Lueken, S.; Arnaud\*, S.; Taylor, A.K.; Baylink, D.J.  
Immobilization causes an acute and sustained increase in markers of bone resorption (Abstract).  
*Clinical Research* 38(1): 123A, 1990. (GWU 13966)
- Lueken, S.; Arnaud\*, S.; Taylor, A.K.; Lau, K.H.W.; Perkel, V.; Baylink, D.J.  
Bed rest causes an acute and progressive increase in skeletal resorption in normal men: Indirect evidence that this is mediated by osteocalcin (Abstract).  
*Journal of Bone and Mineral Research* 4(Suppl.): S308, 1989. (GWU 13967)
- Maheshwari, U.R.; Schneider\*, V.S.; McDonald, J.T.; Brunetti, A.J.; Leybin, L.; Newbrun, E.; Hodge, H.  
Fluoride balance studies in healthy men during bed rest with and without a fluoride supplement.  
*American Journal of Clinical Nutrition* 36: 211-218, 1982. (GWU 4623)
- Maheshwari, U.R.; Schneider\*, V.S.; McDonald, J.T.; Leybin, L.; Newbrun, E.; Hodge, H.C.  
Relation of serum and urinary fluoride levels to fluoride intake in healthy men.  
*Proceedings of the Western Pharmacology Society* 27: 469-473, 1984. (GWU 6000)
- Mallette, L.E.; LeBlanc\*, A.D.; Pool, J.L.; Mechanick, J.I.  
Cyclic therapy of osteoporosis with neutral phosphate and brief, high-dose pulses of etidronate.  
*Journal of Bone and Mineral Research* 4(2): 143-148, 1989. (GWU 10487)
- Manatt\*, S.L.  
Introduction to nuclear magnetic resonance.  
In: *Workshop on Advances in NASA-Relevant, Minimally Invasive Instrumentation*. Pasadena, CA: NASA, Jet Propulsion Laboratory, p. 5/1-5/18, 1985. (JPL D-1942) (GWU 6154)
- Manatt\*, S.L.; Khune, G.D.; Khatri, N.A.  
NMR characterization of functional groups: Isomer ratios of available chloromethylstyrene mixtures.  
*Magnetic Resonance in Chemistry* 23(3): 207-212, 1985. (GWU 7391)
- Manatt\*, S.L.; Uhl, W.W.; Werner, C.L.; Goldwhite, P.; Rutt, B.F.; Stebler, B.G.; Boyd\*, D.P.; Cann, C.E.; Genant\*, H.K.  
Trabecular bone mineral measurements and computed tomo densitometer for more precise bone mineral measurements (Abstract).  
*Aviation, Space, and Environmental Medicine* 55(5): 472, 1984. (GWU 5618)

- Marcus, R.; Cann, C.; Madvig, P.; Minkoff, J.; Goddard, M.; Bayer, M.; Martin, M.; Gaudiani, L.; Haskell, W.; Genant\*, H.  
Menstrual function and bone mass in elite women distance runners: Endocrine and metabolic features.  
*Annals of Internal Medicine* 102(2): 158-163, 1985. (GWU 7456)
- Markowitz, M.E.; Arnaud\*, S.; Rosen, J.F.; Thorpy, M.; Laximinarayan, S.  
Temporal interrelationships between the circadian rhythms of serum parathyroid hormone and calcium concentrations.  
*Journal of Clinical Endocrinology and Metabolism* 67(5): 1068-1073, 1988. (GWU 10586)
- Markowitz, M.E.; Rosen, J.F.; Arnaud\*, S.; Thorpy, M.  
Interrelationships between circadian rhythms of serum parathyroid hormone (PTH), ionized calcium ( $\text{Ca}_i$ ), total calcium ( $\text{Ca}_t$ ) and phosphate ( $\text{P}_i$ ) concentrations (Abstract).  
*Journal of Bone and Mineral Research* 3(Suppl. 1): S75, 1988. (GWU 10543)
- Markowitz, M.E.; Rosen, J.F.; Smith, C.; DeLuca\*, H.F.  
1,25-dihydroxyvitamin  $\text{D}_3$ -treated hypoparathyroidism: 35 patient years in 10 children.  
*Journal of Clinical Endocrinology and Metabolism* 55(4): 727-733, 1982. (GWU 4430)
- Marsh, C.L.; LeBlanc\*, A.D.; Johnson\*, P.C.; Pool\*, S.L.  
A new technique for measuring intestinal calcium absorption in the rat.  
*American Journal of Physiology* 245: G438-G441, 1983. (GWU 5557)
- Martin, R.; Albright, J.P.; Jee\*, W.S.S.; Taylor, G.N.; Clarke, W.R.  
Bone loss in the beagle tibia: Influence of age, weight, and sex (Abstract).  
*Metabolic Bone Disease and Related Research* 2(Suppl.): 497, 1980. (GWU 4224)
- Martin\*, R.B.  
The bending strength of rat femurs is inversely dependent on the degree of mineralization.  
Abstract of a paper presented at the 36th Meeting of the Orthopaedic Research Society, 1990.
- Martin\*, R.B.  
Effects of simulated weightlessness on bone properties in rats.  
*Journal of Biomechanics* 23(10): 1021-1029, 1990. (GWU 13699)
- Martin\*, R.B.; Arnaud\*, S.B.; Burr, D.B.  
Non-invasive prediction of bone strength: Comparison of photon absorptiometry with x-ray densitometry.  
In: *1989 Advances in Bioengineering* (Rubinsky, B., Ed.). New York: American Society for Mechanical Engineers, 2 p., 1989. (GWU 13722)
- Martin\*, R.B.; Morey-Holton\*, E.R.; Sharkey, N.A.; Maese, A.C.  
Spacelab 3 simulation: Bone strength study (Abstract).  
*ASGSB Bulletin* 1: 38-39, 1988. (GWU 9305)
- Martin\*, R.B.; Papamichos, T.; Dannucci, G.A.  
Linear calibration of radiographic mineral density using video-digitizing methods.  
*Calcified Tissue International* 47(2): 82-91, 1990. (GWU 13700)
- Martin\*, R.B.; Paul, H.A.; Bargar, W.L.; Dannucci, G.A.; Sharkey, N.A.  
Effects of estrogen deficiency on the growth of tissue into porous titanium implants.  
*Journal of Bone and Joint Surgery* 70-A(4): 540-547, 1988. (GWU 9043)
- Martinez, D.; Grindeland\*, R.; Vailas\*, A.C.  
Acute adaptation of the cortical bone matrix to weightlessness (Abstract).  
*Medicine and Science in Sports and Exercise* 20(2): S60, 1988. (GWU 9841)

- Martinez, D.A.; Vailas\*, A.C.; Grindeland\*, R.E.  
Growth hormone modification of cortical bone to hindlimb suspension in hypophysectomized rats (Abstract).  
*Medicine and Science in Sports and Exercise* 21(2, Suppl.): S38, 1989. (GWU 14660)
- Mathews, C.H.E.; Brommage, R.; DeLuca\*, H.F.  
Skeletal defects observed in vitamin D-deficient rat pups result from decreased milk consumption and not directly from vitamin D deficiency (Abstract).  
*Calcified Tissue International* 36: 520, 1984. (GWU 7183)
- Matsuda, J.J.; Zernicke, R.F.; Vailas\*, A.C.; Pedrini, V.A.; Pedrini-Mille, A.; Maynard, J.A.  
Structural and mechanical adaptation of immature bone to strenuous exercise.  
*Journal of Applied Physiology* 60(6): 2028-2034, 1986. (GWU 8722)
- Matthews\*, J.L.  
K-305: Quantitative analysis of selected bone parameters. Supplemental Report 3B: Mineralization in the long bones.  
In: *Final Reports of U.S. Rat Experiments Flown on the Soviet Satellite Cosmos 1129* (Heinrich, M.R., Souza, K.A. Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 199-228, 1981. (NASA-TM-81289) (GWU 2427)
- Mazess\*, R.B.  
Alternatives to CT measurement of bone (Abstract).  
*Journal of Computer Assisted Tomography* 7(3): 549-550, 1983. (GWU 5669)
- Mazess\*, R.B.  
Errors in measuring trabecular bone by computed tomography due to marrow and bone composition.  
*Calcified Tissue International* 35: 148-152, 1983. (GWU 4602)
- Mazess\*, R.B.  
Noninvasive measurement of local bone in osteoporosis.  
In: *Osteoporosis: Recent Advances in Pathogenesis and Treatment* (DeLuca, H.F., Frost, H.M., Jee, W.S.S., Johnston, C.C., Jr., Parfitt, A.M., Eds.). Baltimore, MD: University Park, p. 25-36, 1980. (GWU 2779)
- Mazess\*, R.B.  
The noninvasive measurement of skeletal mass.  
In: *Bone and Mineral Research, Annual 1* (Peck, W.A., Ed.). Amsterdam, The Netherlands: Excerpta Medica, p. 223-279, 1983. (GWU 4230)
- Mazess\*, R.B.  
On aging bone loss.  
*Clinical Orthopaedics and Related Research* 165: 239-252, 1982. (GWU 2963)
- Mazess\*, R.B.  
Photon absorptiometry.  
In: *Non-Invasive Measurements of Bone Mass and Their Clinical Application* (Cohn, S.H., Ed.). Boca Raton, FL: CRC Press, p. 85-99, 1981. (GWU 2777)
- Mazess\*, R.B.  
Problems in measurement of trabecular bone.  
In: *Clinical Disorders of Bone and Mineral Metabolism* (Frame, B., Potts, J.T., Jr., Eds.). Amsterdam, The Netherlands: Excerpta Medica, p. 30-33, 1983. (GWU 5860)
- Mazess\*, R.B.  
Spinal mineral by <sup>153</sup>Gd absorptiometry in osteoporosis (Abstract).  
*Calcified Tissue International* 35(Suppl.): A60, 1983. (GWU 5122)

- Mazess\*, R.B.  
Total body and regional bone mineral by dual-photon absorptiometry (Abstract).  
*Calcified Tissue International* 33(3): 328, 1981. (GWU 3423)
- Mazess\*, R.B.; Christiansen, C.  
A comparison of bone mineral results from Denmark and the U.S.  
*Human Biology* 54(2): 343-354, 1982. (GWU 4612)
- Mazess\*, R.B.; Peppler, W.W.; Chesney, R.W.; Lange, T.A.; Lindgren, U.; Smith, E., Jr.  
Does bone measurement on the radius indicate skeletal status? Concise communication.  
*Journal of Nuclear Medicine* 25(3): 281-288, 1984. (GWU 5754)
- Mazess\*, R.B.; Peppler, W.W.; Chesney, R.W.; Lange, T.A.; Lindgren, U.; Smith, E., Jr.  
Total body and regional bone mineral by dual-photon absorptiometry in metabolic bone disease.  
*Calcified Tissue International* 36: 8-13, 1984. (GWU 5495)
- Mazess\*, R.B.; Peppler, W.W.; Chesnut, C.H., III; Nelp, W.B.; Cohn, S.H.; Zanzi, I.  
Total body bone mineral and lean body mass by dual-photon absorptiometry. II. Comparison with total body calcium by neutron activation analysis.  
*Calcified Tissue International* 33(4): 361-363, 1981. (GWU 2535)
- Mazess\*, R.B.; Peppler, W.W.; Gibbons, M.  
Total body composition by dual-photon ( $^{153}\text{Gd}$ ) absorptiometry.  
*American Journal of Clinical Nutrition* 40(4): 834-839, 1984. (GWU 6328)
- Mazess\*, R.B.; Peppler, W.W.; Harrison, J.E.; McNeill, K.G.  
Total body bone mineral and lean body mass by dual-photon absorptiometry. III. Comparison with trunk calcium by neutron activation analysis.  
*Calcified Tissue International* 33(4): 365-368, 1981. (GWU 2534)
- Mazess\*, R.B.; Vetter, J.  
The influence of marrow on measurement of trabecular bone using computer tomography.  
*Bone* 6: 349-351, 1985. (GWU 7321)
- Mazess\*, R.B.; Whedon, G.D.  
Immobilization and bone.  
*Calcified Tissue International* 35: 265-267, 1983. (GWU 4690)
- Mazess\*, R.B.; Young\*, D.  
Measurement of spine and total body mineral by dual-photon absorptiometry.  
In: *Space Physiology*. Toulouse, France: Centre National d'Etudes Spatiales, p. 209-214, 1983. (GWU 5541)
- McDonald, J.; Schneider\*, V.; Rambaut\*, P.; Dietlein\*, L.; Whedon, G.D.  
Prevention of disuse osteoporosis: Clodronate therapy (Abstract).  
*Federation Proceedings* 40(3): 920, 1981. (GWU 1472)
- Mechanic\*, G.L.; Arnaud\*, S.B.; Boyde, A.; Bromage, T.G.; Buckendahl, P.; Elliott, J.C.; Katz, E.P.; Durnova, G.N.  
Regional distribution of mineral and matrix in the femurs of rats flown on Cosmos 1887 biosatellite.  
*FASEB Journal* 4: 34-40, 1990. (GWU 10979)
- Mechanic\*, G.L.; Arnaud\*, S.B.; Boyde, A.; Buckendahl, P.; Bromage, T.G.; Elliott, J.; Katz, E.P.; Durnova, G.N.  
Regional changes in mineral and matrix in rat femoral diaphysis after space flight (Abstract).  
*Journal of Bone and Mineral Research* 4(Suppl. 1): S407, 1989. (GWU 13968)



- Mechanic\*, G.L.; Banes, A.J.  
The role of 3-hydroxypyridinium in bone collagen (Abstract).  
*Calcified Tissue International* 36: 495, 1984. (GWU 7188)
- Mechanic\*, G.L.; Banes, A.J.; Henmi, M.; Yamauchi, M.  
Possible collagen structural control of mineralization.  
In: *The Chemistry and Biology of Mineralized Connective Tissue* (Butler, W.T., Ed.). Birmingham, AL: EBSCO Media, p. 92-102, 1985. (GWU 7748)
- Mechanic\*, G.L.; Farb, R.M.; Henmi, M.; Ranga, V.; Bromberg, P.A.; Yamauchi, M.  
Structural crosslinking of lung connective tissue collagen in the blotchy mouse.  
*Experimental Lung Research* 12: 109-117, 1987. (GWU 10601)
- Mechanic\*, G.L.; Katz, E.P.; Henmi, M.; Noyes, C.; Yamauchi, M.  
Locus of a histidine-based, stable trifunctional, helix to helix collagen cross-link: Stereospecific collagen structure of type I skin fibrils.  
*Biochemistry* 26(12): 3500-3509, 1987. (GWU 8141)
- Mechanic\*, G.L.; Katz, E.P.; Yamauchi, M.  
Structure of type I collagen in skin & skeletal tissues (Abstract).  
*Connective Tissue Research* 22: 267, 1989. (GWU 14577)
- Mechanic\*, G.L.; Young\*, D.R.; Banes, A.J.; Yamauchi, M.  
Nonmineralized and mineralized bone collagen in bone of immobilized monkeys.  
*Calcified Tissue International* 39: 63-68, 1986. (GWU 7474)
- Messier, A.A.; Cohn, S.H.; Neer\*, R.M.; Vaswani, A.; Tappan, D.V.; Bondi, K.R.  
Assessment of bone and body composition in recently retired and active duty submariners (Abstract).  
*Federation Proceedings* 40(3, Part 2): 920, 1981. (GWU 1093)
- Miller, S.; Bowman, M.; Smith, J.; Jee\*, W.  
Morphometry of bone-lining cells and microvascular ultrastructure of fatty marrow bone sites in adult beagles (Abstract).  
*Metabolic Bone Disease and Related Research* 2(Suppl.): 498-499, 1980. (GWU 4225)
- Miller, S.C.; Jee\*, W.S.S.  
The bone forming cells: Origin, distribution, proliferation and differentiation.  
In: *Bone Morphometry* (Takahashi, H.E., Ed.). Niigata, Japan: Nishimura Co., p. 29-36, 1990. (GWU 13569)
- Miller, S.C.; Jee\*, W.S.S.  
The bone lining cell: A distinct phenotype?  
*Calcified Tissue International* 41(1): 1-5, 1987. (GWU 8634)
- Miller, S.C.; Jee\*, W.S.S.; Woodbury, D.M.; Kemp, J.W.  
Effects of *N,N,N',N'*-ethylenediaminetetramethylene phosphonic acid and 1-hydroxyethylidene-1,1-bisphosphonic acid on calcium absorption, plasma calcium, longitudinal bone growth, and bone histology in the growing rat.  
*Toxicology and Applied Pharmacology* 77(2): 230-239, 1985. (GWU 6535)
- Montgomery, L.D.; McEwen, G.N., Jr.; Gerber, R.L.; Cann\*, C.E.; Morey\*, E.R.  
Use of impedance plethysmography to continually monitor bone marrow blood flow.  
*Aviation, Space, and Environmental Medicine* 55(7): 604-611, 1984. (GWU 5724)
- Morey\*, E.R.; Wronski, T.J.; Cann\*, C.E.  
Bone turnover and space flight.  
In: *Preprints of 1981 Annual Scientific Meeting, Aerospace Medical Association*, San Antonio, TX, May 4-7, 1981. Washington, DC: Aerospace Medical Association, p. 112-113, 1981. (GWU 2064)

- Morey-Holton\*, E.  
A 14-day ground-based hypokinesia study in nonhuman primates: A compilation of results.  
In: *A 14-Day Ground-Based Hypokinesia Study in Nonhuman Primates: A Compilation of Results* (Kazarian, L., Cann, C., Parfitt, M., Simmons, D., Morey-Holton, E., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 1-3, 1981. (NASA-TM-81268) (GWU 3445)
- Morey-Holton\*, E.; Arnaud\*, S.B.  
Spaceflight and bone dynamics (Abstract).  
*Physiologist* 28(4): 264, 1985. (GWU 6917)
- Morey-Holton\*, E.R.  
Effect of space flight on bone (Abstract).  
In: *Space-Environment Workshop for Life Scientists*. Washington, DC: NASA Headquarters, p. 20-21, 1980. (GWU 4940)
- Morey-Holton\*, E.R.; Arnaud\*, S.B.  
Spaceflight and calcium metabolism.  
*Physiologist* 28(6, Suppl.): S9-S12, 1985. (GWU 6583)
- Morey-Holton\*, E.R.; Bomalaski, M.D.; Enayati-Gordon, E.; Gonsalves, M.R.; Wronski, T.J.  
Is suppression of bone formation during simulated weightlessness related to glucocorticoid levels?  
*Physiologist* 25(6, Suppl.): S145-S146, 1982. (GWU 3804)
- Morey-Holton\*, E.R.; Bomalaski, M.D.; Wronski, T.J.  
Is suppression of bone formation during simulated weightlessness gradual and related to glucocorticoid levels? (Abstract)  
*Physiologist* 25(4): 302, 1982. (GWU 3481)
- Morey-Holton\*, E.R.; Maese, C.A.; Wronski, T.J.  
Comparison of back harness and tail suspension techniques on bone parameters in growing rats (Abstract).  
*Physiologist* 28(4): 312, 1985. (GWU 7036)
- Morey-Holton\*, E.R.; Schnoes, H.K.; DeLuca\*, H.F.; Phelps, M.E.; Klein, R.F.; Nissenson, R.H.; Arnaud\*, C.D.  
Vitamin D metabolites and bioactive parathyroid hormone levels during Spacelab 2.  
*Aviation, Space, and Environmental Medicine* 59: 1038-1041, 1988. (GWU 12195)
- Mori, S.; Jee\*, W.S.S.; Li, X.J.; Chan, S.; Kimmel, D.B.  
Effects of prostaglandin E<sub>2</sub> on production of new cancellous bone in the axial skeleton of ovariectomized rats.  
*Bone* 11: 103-113, 1990. (GWU 13455)
- Nguyen, N.Y.; Grindeland\*, R.E.; Chrambach, A.  
Isolation of human growth hormone isohormones D and E in milligram amounts (II), using isoelectric focusing on polyacrylamide gel.  
*Preparative Biochemistry* 11(2): 173-189, 1981. (GWU 3716)
- Niklowitz, W.J.; Bunch\*, T.E.; Young\*, D.R.  
The effects of immobilization on cortical bone in monkeys (*M. nemestrina*).  
*Physiologist* 26(6): S115-S116, 1983. (GWU 5224)
- Nissenson, R.A.; Karpf, D.; Bambino, T.; Winer, J.; Canga, M.; Nyireddy, K.; Arnaud\*, C.D.  
Covalent labeling of a high-affinity, guanyl nucleotide sensitive parathyroid hormone receptor in canine renal cortex.  
*Biochemistry* 26(7): 1874-1878, 1987. (GWU 11337)

- Norrdin, R.W.; Jee\*, W.S.S.; High, W.B.  
The role of prostaglandins in bone in vivo.  
*Prostaglandins Leukotrienes and Essential Fatty Acids* 41: 139-149, 1990. (GWU 13451)
- Ono, S.; Mechanic\*, G.L.; Yamauchi, M.  
Amyotrophic lateral sclerosis: Unusually low content of collagen in skin.  
*Journal of the Neurological Sciences* 100: 234-237, 1990. (GWU 13946)
- Pahuja, D.N.; DeLuca\*, H.F.  
Role of the hypophysis in the regulation of vitamin D metabolism.  
*Molecular and Cellular Endocrinology* 23: 345-350, 1981. (GWU 4874)
- Pahuja, D.N.; DeLuca\*, H.F.  
Thyroid hormone and vitamin D metabolism in the rat.  
*Archives of Biochemistry and Biophysics* 213(1): 293-298, 1982. (GWU 4429)
- Pang, P.K.T.; Yang, M.C.M.; Kenny\*, A.D.; Tenner, T.E., Jr.  
Structure and vascular activity relationship of parathyroid hormone and some hypotensive peptides.  
*Clinical and Experimental Hypertension: Theory and Practice* A4(1-2): 189-199, 1982. (GWU 4648)
- Parker, D.L.; Smith, V.; Stanley\*, J.H.  
Optimal noise and dose considerations in the reduction of patient motion artifacts by overscanning  
(Abstract).  
*Medical Physics* 7(4): 416, 1980. (GWU 4887)
- Patterson-Allen, P.; Brautigam, C.E.; Grindeland\*, R.E.; Asling, C.W.; Callahan\*, P.X.  
A specific radioimmunoassay for osteocalcin with advantageous species crossreactivity.  
*Analytical Biochemistry* 120: 1-7, 1982. (GWU 3931)
- Patterson-Allen, P.E.; Callahan\*, P.X.; Young\*, D.R.  
Identification of osteocalcin in urine, and its elevation in primate immobilization (Abstract).  
*Calcified Tissue International* 34(Suppl. 1): S12, 1982. (GWU 4702)
- Patterson-Allen, P.E.; Shakes, D.C.; Cann\*, C.E.; Grindeland\*, R.E.; Morey-Holton\*, E.R.  
Effects of stress and immobilization on serum osteocalcin in rats (Abstract).  
*Calcified Tissue International* 35: 647, 1983. (GWU 5467)
- Patterson-Buckendahl, P.; Arnaud\*, S.B.; Mechanic\*, G.L.; Martin\*, R.B.; Grindeland\*, R.E.; Cann\*, C.E.  
Fragility and composition of growing rat bone after one week in spaceflight.  
*American Journal of Physiology* 252: R240-R246, 1987. (GWU 7856)
- Patterson-Buckendahl, P.; Globus, R.K.; Bikle\*, D.D.; Cann\*, C.E.; Morey-Holton\*, E.  
Effects of simulated weightlessness on rat osteocalcin and bone calcium.  
*American Journal of Physiology* 257: R1103-R1109, 1989. (GWU 12884)
- Patterson-Buckendahl, P.; Ortiz, C.L.; Cann\*, C.E.  
Skeletal growth and development in fasting Northern elephant seals (Abstract).  
*Physiologist* 33(4): A76, 1990. (GWU 12108)
- Patterson-Buckendahl, P.E.; Grindeland\*, R.E.; Martin, R.B.; Cann\*, C.E.; Arnaud\*, S.B.  
Osteocalcin as an indicator of bone metabolism during spaceflight.  
*Physiologist* 28(6, Suppl.): S227-S228, 1985. (GWU 6888)
- Patterson-Buckendahl, P.E.; Grindeland\*, R.E.; Shakes, D.C.; Morey-Holton\*, E.R.; Cann\*, C.E.  
Circulating osteocalcin in rats is inversely responsive to changes in corticosterone.  
*American Journal of Physiology* 254: R828-R833, 1988. (GWU 10688)

- Paulson, S.K.; DeLuca\*, H.F.; Battaglia, F.C.; Meschia, G.  
Maternal turnover and transfer rates of 1,25-dihydroxyvitamin D in the pregnant ewe (Abstract).  
*Calcified Tissue International* 36: 522, 1984. (GWU 7693)
- Peppler, W.W.; Mazess\*, R.B.  
Total body bone mineral and lean body mass by dual-photon absorptiometry. I. Theory and measurement procedure.  
*Calcified Tissue International* 33(4): 353-359, 1981. (GWU 2536)
- Polig, E.; Jee\*, W.S.S.  
Automated trabecular bone histomorphometry.  
*Bone* 6: 357-359, 1985. (GWU 7322)
- Polig, E.; Jee\*, W.S.S.  
A model of osteon closure in cortical bone.  
*Calcified Tissue International* 47: 261-269, 1990. (GWU 13461)
- Polig, E.; Jee\*, W.S.S.; Dell, R.B.; Johnson, F.  
Microdistribution and local dosimetry of  $^{226}\text{Ra}$  in trabecular bone of the beagle.  
*Radiation Research* 116(2): 263-282, 1988. (GWU 8650)
- Powell, M.R.; Kolb, F.O.; Genant\*, H.K.; Cann, C.E.; Stebler, B.G.  
Comparison of dual photon absorptiometry and quantitative computed tomography of the lumbar spine in the same subjects.  
In: *Clinical Disorders of Bone and Mineral Metabolism* (Frame, B., Potts, J.T., Jr., Eds.). Amsterdam, The Netherlands: Excerpta Medica, p. 58-60, 1983. (GWU 5841)
- Pozzi-Mucelli, R.S.; Kanter, A.S.; Genant\*, H.K.; Cann, C.E.; Ettinger, B.; Kolb, F.O.  
Quantitative bone mineral analyses in primary hyperparathyroidism.  
*Journal of Computer Assisted Tomography* 7(3): 555, 1983. (GWU 5012)
- Pozzi-Mucelli, R.S.; Kanter, A.S.; Genant\*, H.K.; Cann, C.E.; Ettinger, B.; Kolb, F.O.  
Quantitative bone mineral analyses in primary hyperparathyroidism (Abstract).  
*Calcified Tissue International* 35(Suppl.): A43, 1983. (GWU 5121)
- Price, P.A.; Sloper, S.A.; Williamson, M.K.; Dev, P.K.; Jee\*, W.S.S.  
Warfarin-treatment accelerates bone resorption in the metaphysis of 1,25 dihydroxyvitamin D<sub>3</sub>-treated rats (Abstract).  
*Calcified Tissue International* 36: 523, 1984. (GWU 7696)
- Price, P.A.; Williamson, M.K.; Haba, T.; Dell, R.B.; Jee\*, W.S.S.  
Excessive mineralization with growth plate closure in rats on chronic warfarin treatment.  
*Proceedings of the National Academy of Sciences USA* 79: 7734-7738, 1982. (GWU 4374)
- Puzas, J.E.; Drivdahl, R.H.; Howard, G.A.; Baylink, D.J. (Morey-Holton, E.R. = P.I.)  
Evidence for local regulation of bone metabolism: A potent inhibitor of bone cell proliferation (Abstract).  
*Clinical Research* 28(1): 53A, 1980. (GWU 1442)
- Rakhmanov, A.S.; Oganov, V.S.; Ternovoy, S.K.; Cann\*, C.; Genant\*, H.  
Mineral density of man's skeletal bones during antiorthostatic hypokinesia (Abstract).  
*Aviation, Space, and Environmental Medicine* 59(5): 493, 1988. (GWU 10240)
- Rambaut\*, P.C.  
Weightlessness and bone loss in man.  
In: *Space Physiology*. Toulouse, France: Centre Nationale d'Etudes Spatiales, p. 201-208, 1983. (GWU 5568)

- Rambaut\*, P.C.; Goode, A.W.  
Skeletal changes during space flight.  
*Lancet* November: 1050-1052, 1985. (GWU 9646)
- Reeve, J.; Arlot, M.; Bernat, M.; Charhon, S.; Edouard, C.; Slovik, D.; Vismans, F.J.F.E.; Meunier, P.J. (Neer, R.M. = P.I.)  
Calcium-47 kinetic measurements of bone turnover compared to bone histomorphometry in osteoporosis: The influence of human parathyroid fragment (hPTH 1-34) therapy.  
*Metabolic Bone Disease and Related Research* 3: 23-30, 1981. (GWU 2602)
- Reeve, J.; Bijvoet, O.L.M.; Neer\*, R.M.; Slovik, D.; Tellez, M.; Vismans, F.J.F.E.; Zanelli, G.D.  
A comparison between the balance method and radiotracer methods for measuring calcium absorption in treated and untreated patients with osteoporosis.  
*Metabolic Bone Disease and Related Research* 2: 233-237, 1980. (GWU 2605)
- Reeve, J.; Meunier, P.J.; Parsons, J.A.; Bernat, M.; Bijvoet, O.L.M.; Courpron, P.; Edouard, C.; Klenerman, L.; Neer\*, R.M.; Renier, J.C.; Slovik, D.; Vismans, F.J.F.E.; Potts, J.T., Jr.  
Anabolic effect of human parathyroid hormone fragment on trabecular bone in involutional osteoporosis: A multicentre trial.  
*British Medical Journal* 280: 1340-1344, 1980. (GWU 2615)
- Reinbold, W.-D.; Genant\*, H.K.; Reiser, U.J.; Harris, S.T.; Ettinger, B.  
Bone mineral content in early-postmenopausal and postmenopausal osteoporotic women: Comparison of measurement methods.  
*Radiology* 160(2): 469-478, 1986. (GWU 7969)
- Richards, T.L.; Davis, C.A.; Barker, B.R.; Beinert, W.D.; Genant\*, H.K.  
Lipid/water ratio of bone marrow measured by phase-encoded proton nuclear magnetic resonance spectroscopy.  
*Investigative Radiology* 22(9): 741-746, 1987. (GWU 8110)
- Richardson, M.L.; Genant\*, H.K.; Cann, C.E.; Ettinger, B.; Gordan, G.S.; Kolb, F.O.; Reiser, U.J.  
Assessment of metabolic bone diseases by quantitative computer tomography.  
*Clinical Orthopaedics and Related Research* 195: 224-238, 1985. (GWU 7681)
- Richardson, M.L.; Genant\*, H.K.; Cann, C.E.; Kolb, F.O.; Ettinger, B.; Gordan, G.S.  
Noninvasive assessment of skeletal mass.  
*Journal of Computer Assisted Tomography* 9(3): 636-638, 1985. (GWU 7682)
- Riggs, B.L.; Wahner, H.W.; Dunn, W.L.; Mazess\*, R.B.; Offord, K.P.; Melton, L.J., III  
Differential changes in bone mineral density of the appendicular and axial skeleton with aging.  
*Journal of Clinical Investigation* 67: 328-335, 1981. (GWU 563)
- Riggs, L.; Hamstra, A.; DeLuca\*, H.F.  
Assessment of 25-hydroxyvitamin D 1 $\alpha$ -hydroxylase reserve in postmenopausal osteoporosis by administration of parathyroid extract.  
*Journal of Clinical Endocrinology and Metabolism* 53(4): 833-835, 1981. (GWU 4308)
- Risser, W.L.; Lee, E.J.; LeBlanc\*, A.; Poindexter, H.B.W.; Risser, J.M.H.; Schneider\*, V.  
Bone density in eumenorrheic female college athletes.  
*Medicine and Science in Sports and Exercise* 22(5): 570-574, 1990. (GWU 12371)
- Roberts, W.E.; Garetto, L.P.; Jee\*, W.S.S.  
Differential glucocorticoid influence on osteoblast histogenesis during mechanically induced osteogenesis (Abstract).  
*Calcified Tissue International* 44(Suppl.): S98, 1989. (GWU 12808)

- Roer, R.D.; Dillaman\*, R.M.  
Bone growth and calcium balance during simulated weightlessness in the rat.  
*Journal of Applied Physiology* 68(1): 13-20, 1990. (GWU 13225)
- Roer, R.D.; Dillaman\*, R.M.  
Changes in marker distribution with tail suspension in the rat (Abstract).  
*ASGSB Bulletin* 4(1): 36, 1990. (GWU 13357)
- Roer, R.D.; Dillaman\*, R.M.; Rutherford, E.  
Effects of tail suspension on bone growth and calcium balance in juvenile rats (Abstract).  
*ASGSB Bulletin* 1: 66, 1988. (GWU 10583)
- Roer, R.D.; Dillaman\*, R.M.; Rutherford, E.  
Molecular marker distribution and computer modeling of rat bone fluid dynamics (Abstract).  
*Journal of Bone and Mineral Research* 3(Suppl. 1): S186, 1988. (GWU 10582)
- Rutt, B.K.; Stebler, B.G.; Cann, C.E.; Boyd\*, D.P.; Genant\*, H.K.; Manatt\*, S.L.  
Whole-body CT scanner for ultraprecise, ultraaccurate determination of bone density.  
*Journal of Computer Assisted Tomography* 9(3): 609-610, 1985. (GWU 7392)
- Sabelman, E.E.; Holton\*, E.M.; Arnaud\*, C.D.  
Experiment K-314: Fetal and neonatal rat bone and joint development following *in utero* spaceflight.  
In: *Final Reports of U.S. Rat Experiments Flown on the Soviet Satellite Cosmos 1129* (Heinrich, M.R., Souza, K.A., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 363-404, 1981. (NASA-TM-81289) (GWU 2373)
- Salem, G.; Zernicke, R.; Vailas\*, A.; Martinez, D.  
Biomechanical and biochemical changes in lumbar vertebrae of rapidly growing rats (Abstract).  
*Medicine and Science in Sports and Exercise* 20(2): S58, 1988. (GWU 9651)
- Salem, G.J.; Zernicke, R.F.; Vailas\*, A.C.; Martinez, D.A.  
Biomechanical and biochemical changes in lumbar vertebrae of rapidly growing rats.  
*American Journal of Physiology* 256: R259-R263, 1989. (GWU 14683)
- Schneider\*, V.S.  
Space Medicine considerations: Skeletal and calcium homeostasis.  
In: *Workshop on Exercise Prescription for Long-Duration Space Flight* (Harris, B.A., Jr., Stewart, D.F., Eds.). Houston, TX: NASA, Johnson Space Center, p. 47-52, 1989. (NASA-CP-3051) (GWU 8519)
- Schneider\*, V.S.; LeBlanc\*, A.; Huntoon\*, C.L.  
Prevention of space flight induced soft tissue calcification and disuse osteoporosis.  
Paper presented at the 41st Congress of the International Astronautical Federation, Dresden, Germany, October 6-12, 1990, 2 p. (IAF/IAA-90-512) (GWU 14266)
- Schneider\*, V.S.; LeBlanc\*, A.; Rambaut\*, P.C.  
Bone and mineral metabolism.  
In: *Space Physiology and Medicine*, 2nd Edition (Nicogossian, A.E., Huntoon, C.L., Pool, S.L., Eds.). Philadelphia, PA: Lea & Febiger, p. 214-221, 1989. (GWU 14322)
- Schneider\*, V.S.; McDonald, J.  
Skeletal calcium homeostasis and countermeasures to prevent disuse osteoporosis.  
*Calcified Tissue International* 36: S151-S154, 1984. (GWU 7352)
- Searle, G.; Hsu, F.; Arnaud\*, C.; Clark, O.; Feingold, K.  
Lactate kinetics in hyperparathyroidism (Abstract).  
*Federation Proceedings* 46: 696, 1987. (GWU 11109)

- Segre, G.V.; Harris, S.T.; Neer\*, R.; Potts, J.T., Jr.  
Sigmoidal relationship between plasma parathyroid hormone and calcium concentration in man (Abstract).  
*Calcified Tissue International* 33(3): 317, 1981. (GWU 4158)
- Shaw, S.R.; Vailas\*, A.C.; Grindeland\*, R.E.; Zernicke, R.F.  
Effects of a 1-wk spaceflight on morphological and mechanical properties of growing bone.  
*American Journal of Physiology* 254: R78-R83, 1988. (GWU 10966)
- Shaw, S.R.; Zernicke, R.F.; Vailas\*, A.C.; DeLuna, D.; Thomason, D.B.; Baldwin\*, K.M.  
Mechanical, morphological, and biochemical adaptations of bone to hindlimb suspension and exercise (Abstract).  
*Medicine and Science in Sports and Exercise* 18(2, Suppl.): S5, 1986. (GWU 7460)
- Sheng, H.P.; Abrams, S.A.; Schanler, R.J.; Judge, D.; Evans, H.J.; LeBlanc\*, A.; Garza, C.  
Total body calcium and bone mineralization are compromised in calcium-restricted piglets (Abstract).  
*FASEB Journal* 2(6): A427, 1988. (GWU 9023)
- Sheng, H.P.; Huggins, R.A.; Garza, C.; Evans, H.J.; LeBlanc\*, A.D.; Nichols, B.L.; Johnson\*, P.C.  
Total body sodium, calcium, and chloride measured chemically and by neutron activation in guinea pigs.  
*American Journal of Physiology* 241: R419-R422, 1981. (GWU 4504)
- Silve, C.M.; Hradek, G.T.; Jones, A.L.; Arnaud\*, C.D.  
Parathyroid hormone receptor in intact embryonic chicken bone: Characterization and cellular localization.  
*Journal of Cell Biology* 94: 379-386, 1982. (GWU 4522)
- Silver, B.B.; Harris, B.A.; Arnaud\*, S.B.  
A sensitive technique for monitoring intracellular calcium and electrolytes (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 114-115. (GWU 9950)
- Simmons\*, D.J.; Grazman, B.; Russell, J.E.; Walker, W.V.; Bikle\*, D.D.; Morey\*, E.R.  
Simulating certain aspects of hypogravity: Effects on bone maturation in the non-weight bearing skeleton.  
*Aviation, Space, and Environmental Medicine* 54(12): 1080-1084, 1983. (GWU 5234)
- Simmons\*, D.J.; Parvin, C.; Smith, K.C.; France, P.; Kazarian\*, L.  
Effect of repositioning on the growth and maturation of mandibular bone in immobilized rhesus monkeys.  
*Aviation, Space, and Environmental Medicine* 57(2): 157-161, 1986. (GWU 8725)
- Simmons\*, D.J.; Russell, J.E.; Walker, W.V.; Grazman, B.; Oloff, C.; Kazarian\*, L.  
Growth and maturation of mandibular bone in otherwise totally immobilized rhesus monkeys.  
*Clinical Orthopaedics and Related Research* 182: 220-230, 1984. (GWU 5532)
- Simmons\*, D.J.; Russell, J.E.; Winter, F.; Rosenberg, G.D.; Walker, W.V.  
K-310: The effect of spaceflight on osteogenesis and dentinogenesis in the mandibles of rats.  
In: *Final Reports of U.S. Rat Experiments Flown on the Soviet Satellite Cosmos 1129* (Heinrich, M.R., Souza, K.A., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 279-306, 1981. (NASA-TM-81289) (GWU 2425)
- Simon, L.S.; Slovik, D.M.; Wortman, P.D.; Neer\*, R.M.; Krane, S.  
Parathyroid hormone (PTH) infusion inhibits type I collagen synthesis in humans (Abstract).  
*Clinical Research* 30(2): 476A, 1982. (GWU 4578)
- Simpson, R.U.; DeLuca\*, H.F.  
Purification of chicken intestinal receptor for  $1\alpha,25$ -dihydroxyvitamin  $D_3$  to apparent homogeneity.  
*Proceedings of the National Academy of Sciences USA* 79: 16-20, 1982. (GWU 4555)

- Simpson, R.U.; Hamstra, A.; Kendrick, N.C.; DeLuca\*, H.F.  
Purification of the receptor for  $1\alpha,25$ -dihydroxyvitamin D<sub>3</sub> from chicken intestine.  
*Biochemistry* 22(10): 2586-2594, 1983. (GWU 5425)
- Sjöden, G.; Lindgren, J.U.; DeLuca\*, H.F.  
Antirachitic activity of  $1\alpha$ -hydroxyergocalciferol and  $1\alpha$ -hydroxycholecalciferol in rats.  
*Journal of Nutrition* 114: 2043-2046, 1984. (GWU 6207)
- Slovik, D.M.; Neer\*, R.M.; Ohman, J.L.; Lowell, F.C.; Clark, M.B.; Segre, G.V.; Potts, J.T., Jr.  
Parathyroid hormone and 25-hydroxyvitamin D levels in glucocorticoid-treated patients.  
*Clinical Endocrinology* 12: 243-248, 1980. (GWU 203)
- Slovik, D.M.; Neer\*, R.M.; Potts, J.T., Jr.  
Short-term effects of synthetic human parathyroid hormone-(1-34) administration on bone mineral metabolism in osteoporotic patients.  
*Journal of Clinical Investigation* 68: 1261-1271, 1981. (GWU 2604)
- Spector, M.; Turner, R.T.; Morey-Holton\*, E.; Baylink, D.J.; Bell, N.H.  
Arrested bone formation during space flight results in a hypomineralized skeletal defect.  
*Physiologist* 26(6, Suppl.): S110-S111, 1983. (GWU 5262)
- Spengler, D.M.; Morey\*, E.R.; Carter, D.R.; Turner, R.T.; Baylink, D.J.  
Effects of spaceflight on structural and material strength of growing bone.  
*Proceedings of the Society for Experimental Biology and Medicine* 174: 224-228, 1983. (GWU 5465)
- Sprague, E.A.; Steinbach, B.L.; Nerem\*, R.M.; Schwartz, C.J.  
Influence of a laminar steady-state fluid-imposed wall shear stress on the binding, internalization, and degradation of low-density lipoproteins by cultured arterial endothelium.  
*Circulation* 76(3): 648-656, 1987. (GWU 9010)
- Stalp, J.T.; Mazess\*, R.B.  
Determination of bone density by coherent-Compton scattering.  
*Medical Physics* 7(6): 723-726, 1980. (GWU 506)
- Steele\*, C.R.  
Instrument for assessment of bone properties.  
In: *Workshop on Advances in NASA-Relevant, Minimally Invasive Instrumentation*. Pasadena, CA: NASA, Jet Propulsion Laboratory, p. 2/11-2/20, 1985. (JPL D-1942) (GWU 6257)
- Steele\*, C.R.; Zhou, L.-J.; Guido, D.; Marcus, R.; Heinrichs, W.L.; Cheema, C.  
Noninvasive determination of ulnar stiffness from mechanical response: In vivo comparison of stiffness and bone mineral content in humans.  
*Journal of Biomechanical Engineering* 110(2): 87-96, 1988. (GWU 10342)
- Steiger, P.; Block, J.E.; Steiger, S.; Heuck, A.F.; Friedlander, A.; Ettinger, B.; Harris, S.T.; Glüer, C.-C.; Genant\*, H.K.  
Spinal bone mineral density measured with quantitative CT: Effect of region of interest, vertebral level, and technique.  
*Radiology* 175(2): 537-543, 1990. (GWU 13688)
- Steiger, P.; enant\*, H.K.; Steiger, S.; Block, J.E.; Smith, R.  
Quantitative image evaluation techniques for quantitative computed tomography in longitudinal studies (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 140-141. (GWU 9921)



- Steiger, P.; Steiger, S.; Rueggsegger, P.; Genant\*, H.K.  
Two- and three-dimensional quantitative image evaluation techniques for densitometry and volumetrics in longitudinal studies.  
In: *Osteoporosis: Update 1987* (Genant, H.K., Ed). Berkeley, CA: University of California Press, p. 171-180, 1987. (GWU 10360)
- Steinherz, R.; Chesney, R.W.; Schulman, J.D.; DeLuca\*, H.F.; Phelps, M.  
Circulating vitamin D metabolites in nephropathic cystinosis.  
*Journal of Pediatrics* 102: 592-594, 1983. (GWU 4855)
- Stern, P.H.; Halloran\*, B.P.; DeLuca\*, H.F.; Hefley, T.J.  
Responsiveness of vitamin D-deficient fetal rat limb bones to parathyroid hormone in culture.  
*American Journal of Physiology* 244(4): E421-E424, 1983. (GWU 4631)
- Stern, P.H.; Mavreas, T.; Tanaka, Y.; DeLuca\*, H.F.; Ikekawa, N.; Kobayashi, Y.  
Fluoride substitution of vitamin D analogs at C-26 and C-27: Enhancement of activity of 25-hydroxyvitamin D but not of 1,25-dihydroxyvitamin D on bone and intestine *in vitro*.  
*Journal of Pharmacology and Experimental Therapeutics* 229(1): 9-13, 1984. (GWU 5815)
- Stern, P.H.; Tanaka, Y.; DeLuca\*, H.F.; Ikekawa, N.; Kobayashi, Y.  
Bone resorptive activity of side-chain fluoro derivatives of 25-hydroxy- and 1 $\alpha$ ,25-dihydroxyvitamin D<sub>3</sub> in culture.  
*Molecular Pharmacology* 20: 460-462, 1981. (GWU 4288)
- Stumpf, W.E.; Sar, M.; Reid, F.A.; Huang, S.; Narbaitz, R.; DeLuca\*, H.F.  
Autoradiographic studies with <sup>3</sup>H 1,25 (OH)<sub>2</sub> vitamin D<sub>3</sub> and <sup>3</sup>H 25 (OH) vitamin D<sub>3</sub> in rat parathyroid glands.  
*Cell and Tissue Research* 222: 333-338, 1981. (GWU 4768)
- Suki\*, W.; Johnson\*, P.C.; LeBlanc\*, A.; Evans, H.J.  
*Analysis of Body Calcium (Regional Changes in Body Calcium by In Vivo Neutron Activation Analysis)*. Houston, TX: NASA, Johnson Space Center, 108 p., 1981. (NASA-CR-161027) (GWU 4929)
- Teitelbaum, A.P.; Silve, C.M.; Nyireddy, K.O.; Arnaud\*, C.D.  
Down-regulation of parathyroid hormone (PTH) receptors in cultured bone cells is associated with agonist-specific intracellular processing of PTH-receptor complexes.  
*Endocrinology* 118(2): 595-602, 1986. (GWU 7736)
- Tenni, R.; Tavella, D.; Donnelly, P.; Di Ferrante\*, N.; Hill, L.; Leach\*, C.; Hatton, D.  
Cultured fibroblasts of juvenile diabetics have excessively soluble pericellular collagen.  
*Biochemical and Biophysical Research Communications* 92(4): 1071-1075, 1980. (GWU 646)
- Tilton, F.E.; DeGioanni\*, J.J.C.; Schneider\*, V.S.  
Long-term follow-up of Skylab bone demineralization.  
*Aviation, Space, and Environmental Medicine* 51(11): 1209-1213, 1980. (GWU 1271)
- Tipton\*, C.M.; Vailas\*, A.C.  
Bone and connective tissue adaptations to physical activity.  
In: *Exercise, Fitness and Health* (Bouchard, C., Shephard, R.J., Stephens, T., Sutton, J.R., McPherson, B.D., Eds.). Champaign, IL: Human Kinetics, Inc., p. 331-344, 1989. (GWU 7981)
- Tran Van, P.; Vignery, A.; Baron, R.  
K-310: The effect of space flight on osteogenesis and dentinogenesis in the mandible of rats. Supplement 1: The effects of space flight on alveolar bone modeling and remodeling in the rat mandible.  
In: *Final Reports of U.S. Rat Experiments Flown on the Soviet Satellite Cosmos 1129* (Heinrich, M.R., Souza, K.A., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 307-324, 1981. (NASA-TM-81289) (GWU 2424)

- Tsuzaki, M.; Yamauchi, M.; Mechanic\*, G.L.  
Bovine dental pulp collagens: Characterization of types III and V collagen.  
*Archives of Oral Biology* 35(3): 195-200, 1990. (GWU 13944)
- Turner, R.T.; Bell, N.H.; Duvall, P.; Bobyn, J.D.; Spector, M.; Holton\*, E.M.; Baylink, D.J.  
Spaceflight results in formation of defective bone.  
*Proceedings of the Society for Experimental Biology and Medicine* 180: 544-549, 1985. (GWU 8505)
- Ueno, K.; Haba, T.; Woodbury, D.; Price, P.; Anderson, R.; Jee\*, W.S.S.  
The effects of prostaglandin E<sub>2</sub> in rapidly growing rats: Depressed longitudinal and radial growth and increased metaphyseal hard tissue mass.  
*Bone* 6: 79-86, 1985. (GWU 7465)
- Ueno, K.; Kimmel, D.B.; Haba, T.; Jee\*, W.S.S.  
Increased metaphyseal hard tissue mass in growing long bone following prostaglandin E<sub>2</sub> administration.  
In: *Endocrine Control of Bone and Calcium Metabolism* (Cohn, D.V., Fujita, T., Potts, J.T., Jr., Talmadge, R.V., Eds.). New York: Elsevier Science Publishers, p. 151-154, 1984. (GWU 6116)
- Underwood, J.L.; Arnaud\*, S.B.; Fung, P.; Young\*, D.R.  
25 hydroxyvitamin D, 1 $\alpha$ hydroxylase (1-OH-lase) activity in rhesus monkeys.  
In: *Vitamin D. Molecular, Cellular and Clinical Endocrinology*. Berlin, Germany: Walter de Gruyter & Co., p. 198-199, 1988. (GWU 10538)
- Vailas\*, A.C.; DeLuna, D.; Edgerton\*, V.R.; Roy, R.R.  
Evidence for bone modelling during prolonged hindlimb suspension (Abstract).  
*Physiologist* 28(4): 316, 1985. (GWU 7719)
- Vailas\*, A.C.; DeLuna, D.M.; Lewis, L.L.; Curwin, S.L.; Roy, R.R.; Alford, E.K.  
Adaptation of bone and tendon to prolonged hindlimb suspension in rats.  
*Journal of Applied Physiology* 65(1): 373-376, 1988. (GWU 11177)
- Vailas\*, A.C.; Martinez, D.; Shaw, S.; Zernicke, R.F.; Grindeland\*, R.E.  
Biochemical, morphological and mechanical characteristics of cortical bone in young growing rats exposed to 7 days of spaceflight: Results from the SL-3 flight mission (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 173-175. (GWU 9966)
- Vailas\*, A.C.; Zernicke, R.F.; Grindeland\*, R.E.; Kaplansky, A.; Durnova, G.N.; Li, K.-C.; Martinez, D.A.  
Effects of spaceflight on rat humerus geometry, biomechanics, and biochemistry.  
*FASEB Journal* 4: 47-54, 1990. (GWU 10981)
- Vailas\*, A.C.; Zernicke, R.F.; Grindeland\*, R.E.; Li, K.C.  
Suspension effects on morphological and mechanical properties of the bone-ligament junction (Abstract).  
*Medicine and Science in Sports and Exercise* 21(2, Suppl.): S88, 1989. (GWU 14659)
- Vailas\*, A.C.; Zernicke, R.F.; Grindeland\*, R.E.; Li, K.-C.  
Suspension effects on rat femur-medial collateral ligament-tibia unit.  
*American Journal of Physiology* 258(3): R724-R728, 1990. (GWU 14001)
- Vailas\*, A.C.; Zernicke, R.F.; Matsuda, J.; Curwin, S.; Durivage, J.  
Adaptation of rat knee meniscus to prolonged exercise.  
*Journal of Applied Physiology* 60(3): 1031-1034, 1986. (GWU 8812)
- Vanderby, R., Jr.; Vailas\*, A.C.; Graf, B.K.; Thielke, R.J.; Ulm, M.J.; Kohles, S.S.; Kunz, D.N.  
Acute modification of biomechanical properties of the bone-ligament insertion to rat limb unweighting.  
*FASEB Journal* 4: 2499-2505, 1990. (GWU 12107)

- Vincenti, F.; Arnaud\*, S.B.; Recker, R.; Genant\*, H.; Amend, W.J.C., Jr.; Feduska, N.J.; Salvatierra, O., Jr.  
Parathyroid and bone response of the diabetic patient to uremia.  
*Kidney International* 25(4): 677-682, 1984. (GWU 7298)
- Vogler, J.B.; Genant\*, H.K.  
Metabolic and endocrine disease.  
In: *Diagnostic Radiology: An Anglo-American Textbook of Imaging* (Grainger, R.G., Allison, D.J., Eds.). New York: Churchill Livingstone, p. 1369-1413, 1986. (GWU 8008)
- Vogler, J.B., III; Brown, W.H.; Helms, C.A.; Genant\*, H.K.  
The normal sacroiliac joint: A CT study of asymptomatic patients.  
*Radiology* 151(2): 433-437, 1984. (GWU 5742)
- Wang, T.M.; Jee\*, W.S.S.; Woodbury, L.A.; Matthews, J.L.  
Effects of phytohemagglutinin-P (PHA-P) on bone of the growing rat.  
*Metabolic Bone Disease and Related Research* 4: 193-199, 1982. (GWU 4389)
- Weinstein, R.S.; Underwood, J.L.; Hutson, M.S.; DeLuca\*, H.F.  
Mineralization in normocalcemic, normophosphatemic vitamin D-deficient rats (Abstract).  
*Clinical Research* 31(5): A853, 1983. (GWU 5850)
- Whalen, R.T.; Carter\*, D.R.; Steele\*, C.R.  
Influence of physical activity on the regulation of bone density.  
*Journal of Biomechanics* 21(10): 825-837, 1988. (GWU 9315)
- Wiles, H.; Lacy, J.; Watson, E.; Stabin, M.; LeBlanc\*, A.; Bricker, J.  
Radiation dose estimates for adults and newborns from tungsten-178: Based on distribution data in adult and infant animals.  
In: *Age-Related Factors in Radionuclide Metabolism and Dosimetry* (Gerber, G.B., Métivier, H., Smith, H., Eds.). Dordrecht, The Netherlands: Martinus Nijhoff Publishers, p. 229-234, 1987. (GWU 9616)
- Winter, D.C.; Nerem\*, R.M.  
Turbulence in pulsatile flows.  
*Annals of Biomedical Engineering* 12: 357-369, 1984. (GWU 7302)
- Woodard, J.C.; Jee\*, W.S.S.  
Effect of diet and intraneuronic calcinosis on bone modeling and parathyroid volume in rats.  
*Journal of Nutrition* 114(12): 2339-2352, 1984. (GWU 7306)
- Woodard, J.C.; Jee\*, W.S.S.  
Effects of dietary calcium, phosphorus and magnesium on intraneuronic calcinosis in rats.  
*Journal of Nutrition* 114(12): 2331-2338, 1984. (GWU 7307)
- Wronski, T.J.; Morey\*, E.R.  
Alterations in calcium homeostasis and bone during actual and simulated space flight.  
*Medicine and Science in Sports and Exercise* 15(5): 410-414, 1983. (GWU 5466)
- Wronski, T.J.; Morey\*, E.R.  
Effect of spaceflight on periosteal bone formation in rats.  
*American Journal of Physiology* 244: R305-R309, 1983. (GWU 4167)
- Wronski, T.J.; Morey\*, E.R.  
Inhibition of cortical and trabecular bone formation in the long bones of immobilized monkeys.  
*Clinical Orthopaedics and Related Research* 181: 269-276, 1983. (GWU 5739)

- Wronski, T.J.; Morey\*, E.R.  
Recovery of the rat skeleton from the adverse effects of simulated weightlessness.  
*Metabolic Bone Disease and Related Research* 4: 347-352, 1983. (GWU 5488)
- Wronski, T.J.; Morey\*, E.R.  
Skeletal abnormalities in rats induced by simulated weightlessness.  
*Metabolic Bone Diseases and Related Research* 4: 69-75, 1982. (GWU 3574)
- Wronski, T.J.; Morey-Holton\*, E.; Cann\*, C.E.; Arnaud\*, C.D.; Baylink, D.J.; Turner, R.T.; Jee\*, W.S.S.  
K305: Quantitative analysis of selected bone parameters.  
In: *Final Reports of U.S. Rat Experiments Flown on the Soviet Satellite Cosmos 1129* (Heinrich, M.R., Souza, K.A., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 101-125, 1981. (NASA-TM-81289) (GWU 2375)
- Wronski, T.J.; Morey-Holton\*, E.; Jee\*, W.S.S.  
Cosmos 1129: Spaceflight and bone changes.  
*Physiologist* 23(6, Suppl.): S79-S82, 1980. (GWU 2442)
- Wronski, T.J.; Morey-Holton\*, E.R.  
Alterations in calcium metabolism and bone structure during space flight in man and rats (Abstract).  
In: *Abstracts, 24th Plenary Meeting of the Committee on Space Research (COSPAR)*, Ottawa, Canada, May 16-June 2, 1982. Paris: Committee on Space Research, p. 539, 1982. (GWU 3030)
- Wronski, T.J.; Morey-Holton\*, E.R.  
Skeletal response to simulated weightlessness: A comparison of suspension techniques.  
*Aviation, Space, and Environmental Medicine* 58(1): 63-68, 1987. (GWU 8592)
- Wronski, T.J.; Morey-Holton\*, E.R.; Maese, A.C.; Walsh, C.C.  
Space Lab 3: Histomorphometric analysis of the rat skeleton (Abstract).  
*Physiologist* 28(4): 376, 1985. (GWU 7010)
- Wronski, T.J.; Smith, J.M.; Jee\*, W.S.S.  
Variations in mineral apposition rate of trabecular bone within the beagle skeleton.  
*Calcified Tissue International* 33(6): 583-586, 1981. (GWU 2532)
- Wunder\*, C.C.; Matthes, R.D.; Tipton, C.M.  
Knee-ligament loading properties as influenced by gravity: I. Junction with bone of 3-G rodents.  
*Aviation, Space, and Environmental Medicine* 53(11): 1098-1104, 1982. (GWU 3598)
- Wunder\*, C.C.; Matthes, R.D.; Tipton, C.M.  
Knee-ligament loading properties as influenced by gravity: II. Junctional capacity vs. femur length.  
*Aviation, Space, and Environmental Medicine* 53(11): 1105-1111, 1982. (GWU 3597)
- Yamauchi, M.; Banes, A.J.; Mechanic\*, G.L.  
Purification of a pyridinoline-containing peptide fraction from avian osteoblastoma bone (Abstract).  
*Calcified Tissue International* 36: 487, 1984. (GWU 7310)
- Yamauchi, M.; Katz, E.P.; Mechanic\*, G.L.  
Intermolecular cross-linking and stereospecific molecular packing in type I collagen fibrils of the periodontal ligament.  
*Biochemistry* 25: 4907-4913, 1986. (GWU 7722)
- Yamauchi, M.; Katz, E.P.; Otsubo, K.; Teraoka, K.; Mechanic\*, G.L.  
Cross-linking and stereospecific structure of collagen in mineralized and nonmineralized skeletal tissues.  
*Connective Tissue Research* 21: 159-169, 1989. (GWU 13942)

- Yamauchi, M.; Kuboki, Y.; Sasaki, S.; Mechanic\*, G.L.  
New pepsin-solubilized low molecular weight collagenous component possibly unique to periodontal ligament.  
*Biochemistry* 25: 1997-2002, 1986. (GWU 7723)
- Yamauchi, M.; London, R.E.; Guenat, C.; Hashimoto, F.; Mechanic\*, G.L.  
Structure and formation of a stable histidine-based trifunctional cross-link in skin collagen.  
*Journal of Biological Chemistry* 262(24): 11428-11434, 1987. (GWU 10602)
- Yamauchi, M.; Mechanic\*, G.L.  
Cross-linking and bone collagen synthesis in immobilized and recovering primate osteoporosis (Abstract).  
*Calcified Tissue International* 44: S54, 1989. (GWU 14675)
- Yamauchi, M.; Mechanic\*, G.L.  
Cross-linking of collagen.  
In: *Collagen: Biochemistry* (Nimni, M.E., Ed.). Boca Raton, FL: CRC Press, p. 157-172, 1988. (GWU 10581)
- Yamauchi, M.; Teraoka, K.; Otsubo, K.; Katz, E.P.; Mechanic\*, G.L.  
Cross-linking and stereospecific structure of collagen in mineralized and non-mineralized tissues (Abstract).  
*Calcified Tissue International* 44: S95, 1989. (GWU 14576)
- Yamauchi, M.; Woodley, D.T.; Mechanic\*, G.L.  
Aging and cross-linking of skin collagen.  
*Biochemical and Biophysical Research Communications* 152(2): 898-903, 1988. (GWU 10770)
- Yamauchi, M.; Young\*, D.R.; Chandler, G.S.; Mechanic\*, G.L.  
Cross-linking and new bone collagen synthesis in immobilized and recovering primate osteoporosis.  
*Bone* 9: 415-418, 1988. (GWU 10585)
- Yen-Chow, Y.C.; Chow, S.Y.; Jee\*, W.S.S.; Woodbury\*, D.M.  
Membrane potentials, electrolyte contents, cell pH, and some enzyme activities of fibroblasts.  
*In Vitro* 20(9): 677-684, 1984. (GWU 7339)
- Young\*, D.R.  
Reversible osteoporosis in a primate model.  
In: *Third International Symposium on Osteoporosis*, Copenhagen, Denmark, June 3-8, 1984, p. 475-479. (GWU 7882)
- Young\*, D.R.; Niklowitz, W.J.; Brown, R.J.; Jee\*, W.S.S.  
Immobilization-associated osteoporosis in primates.  
*Bone* 7: 109-117, 1986. (GWU 7469)
- Young\*, D.R.; Niklowitz, W.J.; Steele\*, C.R.  
Tibial changes in experimental disuse osteoporosis in the monkey.  
*Calcified Tissue International* 35: 304-308, 1983. (GWU 4610)
- Young\*, D.R.; Schneider\*, V.S.  
Radiographic evidence of disuse osteoporosis in the monkey (*M. nemestrina*).  
*Calcified Tissue International* 33(6): 631-639, 1981. (GWU 2533)
- Young\*, D.R.; Swenson, R.S.  
Acid-base status during short-term immobilization in monkeys (*M. nemestrina*) (Abstract).  
*Physiologist* 26(4): A32, 1983. (GWU 4904)
- Young\*, D.R.; Swenson, R.S.  
Metabolic alkalosis during immobilization in monkeys (Abstract).  
*Federation Proceedings* 41(3): 1012, 1982. (GWU 4517)

- Young\*, D.R.; Yeh, I.; Swenson, R.S.  
Metabolic alkalosis during immobilization in monkeys (*M. nemestrina*).  
*Calcified Tissue International* 35: 472-476, 1983. (GWU 5462)
- Zernicke, R.F.; Hou, J.C.-H.; Vailas\*, A.C.; Nishimoto, M.; Patel, S.; Shaw, S.R.  
Changes in geometrical and biomechanical properties of immature male and female rat tibia.  
*Aviation, Space, and Environmental Medicine* 61(9, Section 1): 814-820, 1990. (GWU 11720)
- Zernicke, R.F.; Vailas\*, A.C.; Grindeland\*, R.E.; Kaplansky, A.; Salem, G.J.; Martinez, D.A.  
Spaceflight effects on biomechanical and biochemical properties of rat vertebrae.  
*American Journal of Physiology* 258(6): R1327-R1332, 1990. (GWU 13776)
- Zernicke, R.F.; Vailas\*, A.C.; Grindeland\*, R.E.; Li, K.-C.; Salem, G.J.  
Interactive effects of nutrition, environment, and rat-strain on cortical and vertebral bone geometry and biomechanics.  
*Aviation, Space, and Environmental Medicine* 61(7): 640-647, 1990. (GWU 13147)
- Zernicke, R.F.; Vailas\*, A.C.; Grindeland\*, R.E.; Li, K.-C.; Salem, G.J.  
Interactive effects of nutrition, environment, and rat-strain on cortical and vertebral bone geometry and biomechanics (Abstract).  
*Journal of Biomechanics* 22(10): 1108, 1989. (GWU 14637)
- Zernicke, R.F.; Vailas\*, A.C.; Salem, G.J.  
Biomechanical response of bone to weightlessness.  
*Exercise and Sport Science Reviews* 18: 167-192, 1990.

## **MUSCLE**





- Alford, E.K.; Roy, R.R.; Chiang, P.C.; Edgerton\*, V.R.  
Hindlimb suspension effects on integrated electromyographic activity in selected rat hindlimb muscles (Abstract).  
*Physiologist* 28(4): 315, 1985. (GWU 7072)
- Alford, E.K.; Roy, R.R.; Hodgson, J.A.; Edgerton\*, V.R.  
Electromyography of rat soleus, medial gastrocnemius, and tibialis anterior during hind limb suspension.  
*Experimental Neurology* 96: 635-649, 1987. (GWU 9685)
- Almon\*, R.R.; Dubois, D.C.  
Are there conditions in which adrenalectomy impedes the atrophying effects of denervation?  
*Physiologist* 28(6, Suppl.): S69-S70, 1985. (GWU 6572)
- Almon\*, R.R.; DuBois, D.C.  
Glucocorticoid sensitivity, disuse, and the regulation of muscle mass.  
*Physiologist* 26(6, Suppl.): S92-S93, 1983. (GWU 5261)
- Babij, P.; Booth\*, F.W.  
 $\alpha$ -Actin and cytochrome *c* mRNAs in atrophied adult rat skeletal muscle.  
*American Journal of Physiology* 254: C651-C656, 1988. (GWU 10610)
- Babij, P.; Booth\*, F.W.  
Biochemistry of exercise: Advances in molecular biology relevant to adaptation of muscle to exercise.  
*Sports Medicine* 5: 137-143, 1988. (GWU 10604)
- Babij, P.; Booth\*, F.W.  
Clenbuterol prevents or inhibits loss of specific mRNAs in atrophying rat skeletal muscle.  
*American Journal of Physiology* 254: C657-C660, 1988. (GWU 10613)
- Babij, P.; Booth\*, F.W.  
Sculpturing new muscle phenotypes.  
*News in Physiological Sciences* 3: 100-102, 1988. (GWU 10612)
- Baldwin\*, K.; Herrick, R.; Oganov, V.  
Experiment K-6-10: Effects of zero gravity on myofibril protein content and isomyosin distribution in rodent skeletal muscle.  
In: *Final Reports of the U.S. Experiments Flown on the Soviet Biosatellite Cosmos 1887* (Connolly, J.P., Grindeland, R.E., Ballard, R.W., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 263-273, 1990. (NASA-TM-102254) (GWU 13128)
- Baldwin\*, K.M.; Herrick, R.E.; Ilyina-Kakueva, E.; Oganov, V.S.  
Effects of zero gravity on myofibril content and isomyosin distribution in rodent skeletal muscle.  
*FASEB Journal* 4: 79-83, 1990. (GWU 10984)
- Baldwin\*, K.M.; Mullin, W.M.; Kerho, S.; Hillman, S.L.  
Effect of limb immobilization on metabolic enzymes and fatigue properties of skeletal muscle (Abstract).  
*Medicine and Science in Sports and Exercise* 15(2): 136, 1983. (GWU 12650)
- Baldwin\*, K.M.; Roy, R.R.; Sacks, R.D.; Blanco, C.; Edgerton\*, V.R.  
Relative independence of metabolic enzymes and neuromuscular activity.  
*Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 56(6): 1602-1607, 1984. (GWU 12652)
- Baldwin\*, K.M.; Valdez, V.; Herrick, R.E.; MacIntosh, A.M.  
Biochemical properties of functionally overloaded skeletal muscle (Abstract).  
*Federation Proceedings* 40(3, Part 1): 514, 1981. (GWU 6997)

- Baldwin\*, K.M.; Valdez, V.; Herrick, R.E.; MacIntosh, A.M.; Roy, R.R.  
Biochemical properties of overloaded fast-twitch skeletal muscle.  
*Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 52(2): 467-472, 1982. (GWU 12654)
- Baldwin\*, K.M.; Valdez, V.; Schrader, L.F.; Herrick, R.E.  
Effect of functional overload on substrate oxidation capacity of skeletal muscle.  
*Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 50(6): 1272-1276, 1981. (GWU 12651)
- Bangsbo, J.; Gollnick\*, P.D.; Graham, T.E.; Juel, C.; Kiens, B.; Mizuno, M.; Saltin, B.  
Anaerobic energy production and O<sub>2</sub> deficit-debt relationship during exhaustive exercise in humans.  
*Journal of Physiology* 422: 539-559, 1990. (GWU 13690)
- Barnett, J.G.; Ellis\*, S.  
Prostaglandin E<sub>2</sub> and the regulation of protein degradation in skeletal muscle.  
*Muscle & Nerve* 10: 556-559, 1987. (GWU 8239)
- Bello, M.A.; Roy, R.R.; Edgerton\*, V.R.  
Hindlimb suspension effects on the morphologic and metabolic properties of rat medial gastrocnemius (Abstract).  
*Physiologist* 28(4): 315, 1985. (GWU 7080)
- Bernard, P.A.; Rance, N.E.; Fishman, P.S.; Max\*, S.R.  
Increased cytosolic androgen receptor binding in rat striated muscle following denervation and disuse.  
*Journal of Neurochemistry* 43(5): 1479-1483, 1984. (GWU 7081)
- Berry, P.; Berry, I.; Arnaud\*, S.B.; Moseley, M.E.  
Spectroscopie par resonance magnetique (SRM) des muscles des membres dans le cadre d'un modele simulant l'apeseur chez l'homme (P-31 magnetic resonance spectroscopy (MRS) of calf and forearm muscles during repetitive exercises) (Abstract). (French)  
Abstract of a paper presented at the second congress of GRAMM: Applications et Developpements recents en Imagerie et Spectroscopie Biologique et Medicale, February, 1987, 3 p. (GWU 7755)
- Blankenhorn\*, D.H.  
Noninvasive methods for evaluation of atherosclerosis in man.  
*Metabolism* 34(12, Suppl. 1): 78-81, 1985. (GWU 7700)
- Block, J.E.; Steinbach, L.S.; Friedlander, A.L.; Steiger, P.; Ellis, W.; Morris, J.M.; Genant\*, H.K.  
Electrically-stimulated muscle hypertrophy in paraplegia: Assessment by quantitative CT.  
*Journal of Computer Assisted Tomography* 13(5): 852-854, 1989. (GWU 13683)
- Bodine-Fowler, S.; Garfinkel, A.; Roy, R.R.; Edgerton\*, V.R.  
An analysis of the spatial distribution of muscle fibers within the territory of a motor unit (Abstract).  
*Journal of Biomechanics* 22(10): 990, 1989. (GWU 14645)
- Bodine-Fowler, S.; Garfinkel, A.; Roy, R.R.; Edgerton\*, V.R.  
Spatial distribution of muscle fibers within the territory of a motor unit.  
*Muscle & Nerve* 13: 1133-1145, 1990. (GWU 14652)
- Bodine-Fowler, S.; Roy, R.R.; Kim, J.; Rudolph, W.; Hague, N.; Edgerton\*, V.R.  
Response of hindlimb muscles of the rhesus monkey to a 14-day space flight (Cosmos 2044) as determined by muscle biopsies (Abstract).  
*Physiologist* 33(4): A76, 1990. (GWU 13284)

Booth\*, F.W.

Effect of limb immobilization on skeletal muscle.

*Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 52(5): 1113-1118, 1982. (GWU 3121)

Booth\*, F.W.

Enzymatic capacities of skeletal muscle: Effects of different types of training.

In: *Physiological Chemistry of Exercise and Training*, Vol. 13: Medicine and Sport (di Prampero, P.E., Poortmans, J., Eds.). Basel, Switzerland: S. Karger, p. 153-164, 1981. (GWU 1597)

Booth\*, F.W.

Physiologic and biochemical effects of immobilization on muscle.

*Clinical Orthopaedics and Related Research* 219: 15-20, 1987. (GWU 9530)

Booth\*, F.W.; Babij, P.; Morrison, P.R.

Molecular events occurring during exercise which may alter gene expression in skeletal muscle.

In: *Biochemical Aspects of Physical Exercise* (Benzi, G., Packer, L., Siliprandi, N., Eds.). Amsterdam, The Netherlands: Elsevier Science Publishers B.V., p. 315-328, 1986. (GWU 11014)

Booth\*, F.W.; Babij, P.; Muller, G.; Morrison, P.R.

Skeletal muscle gene expression in either suspended or immobilized rat hindlimbs (Abstract).

In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 160. (GWU 9954)

Booth\*, F.W.; Babij, P.; Thomason, D.B.; Wong, T.S.; Morrison, P.R.

Adaptation of muscle gene expression to changes in contractile activity.

*Advances in Myochemistry* 1: 205-216, 1987. (GWU 12051)

Booth\*, F.W.; Biggs, R.B.

Effect of age and triiodothyronine on myocardial protein synthesis rates in rats (Abstract).

*FASEB Journal* 3(4): A575, 1989. (GWU 9869)

Booth\*, F.W.; Butler, D.T.; Nicholson, W.F.; Watson, P.A.

Insulin resistance for protein synthesis does not occur in muscles of immobilized rat hindlimbs (Abstract).

*Medicine and Science in Sports and Exercise* 14: 108, 1982. (GWU 4545)

Booth\*, F.W.; Gollnick, P.D.

Effects of disuse on the structure and function of skeletal muscle.

*Medicine and Science in Sports and Exercise* 15(5): 415-420, 1983. (GWU 5698)

Booth\*, F.W.; Morrison, P.R.; Thomason, D.B.; Oganov, V.S.

Experiment K-6-11: Actin mRNA and cytochrome *c* mRNA concentrations in the triceps brachia muscle of rats.

In: *Final Reports of the U.S. Experiments Flown on the Soviet Biosatellite Cosmos 1887* (Connolly, J.P., Grindeland, R.E., Ballard, R.W., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 275-278, 1990. (NASA-TM-102254) (GWU 13129)

Booth\*, F.W.; Nicholson, W.F.; Watson, P.A.

Influence of muscle use on protein synthesis and degradation.

In: *Exercise and Sport Sciences Reviews*, Vol. 10 (Terjung, R.L., Ed.). Madison, WI: American College of Sports Medicine, p. 27-48, 1982. (GWU 4613)

Booth\*, F.W.; Seider, M.J.; Hugman, G.R.

Effects of disuse by limb immobilization on different muscle fiber types.

In: *Plasticity of Muscle* (Pette, D., Ed.). New York: Walter de Gruyter, p. 373-383, 1980. (GWU 2382)

- Booth\*, F.W.; Tucker, K.R.; Nicholson, W.F.  
Effect of adrenalectomy on the immobilization-induced decrease in muscle protein synthesis rate (Abstract).  
*Medicine and Science in Sports and Exercise* 13(2): 86, 1981. (GWU 1692)
- Booth\*, F.W.; Tucker, K.R.; Nicholson, W.F.  
Modified methodology to estimate muscle protein synthesis rate (Abstract).  
*Federation Proceedings* 40(3, Part 1): 513, 1981. (GWU 1087)
- Booth\*, F.W.; Watson, P.A.  
Control of adaptations in protein levels in response to exercise.  
*Federation Proceedings* 44(7): 2293-2300, 1985. (GWU 6303)
- Bouissou, P.; Roy, R.R.; Edgerton\*, V.R.  
Hindlimb suspension effects on the size and enzymatic profile of rat tibialis anterior muscle fibers (Abstract).  
*Physiologist* 28(4): 315, 1985. (GWU 7086)
- Buchanan\*, P.  
An approach to preventing loss of muscle strength and mass in long duration space missions.  
In: *Aerospace Science* (Yojima, K., Ed.). Tokyo, Japan: Nihon University, p. 75-84, 1989. (GWU 13639)
- Buchanan\*, P.; Convertino\*, V.; Dudley, G.; Flores, J.F.; Frey\*, M.A.B.; Duviosin, M.  
Electrical stimulation to leg muscles in ambulatory and leg casted subjects (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 161. (GWU 9948)
- Buchanan\*, P.; Convertino\*, V.A.  
A study of the effects of prolonged simulated microgravity on the musculature of the lower extremities in man: An introduction.  
*Aviation, Space, and Environmental Medicine* 60(7): 649-652, 1989. (GWU 11269)
- Buchanan\*, P.; Flores, J.F.; Frey\*, M.A.B.; Duvoisin, M.  
Electrical stimulation to leg muscles in ambulatory subjects (Abstract).  
*Aviation, Space, and Environmental Medicine* 58(5): 500, 1987. (GWU 8804)
- Butler, D.T.; Booth\*, F.W.  
Muscle atrophy by limb immobilization is not caused by insulin resistance.  
*Hormone and Metabolic Research* 16(4): 172-174, 1984. (GWU 5740)
- Byrd, S.K.; Hodgson, D.R.; Gollnick\*, P.D.  
Altered calcium uptake and release from sarcoplasmic reticulum in muscular fatigue (Abstract).  
*Advances in Myochemistry* 2: 365, 1989. (GWU 14684)
- Byrd, S.K.; Hodgson, D.R.; Gollnick\*, P.D.  
Effects of exercise on the ATP binding site of the sarcoplasmic reticulum (SR) ATPase.  
*Medicine and Science in Sports and Exercise* 22: S108, 1990.
- Byrd, S.K.; McCutcheon, L.J.; Hodgson, D.R.; Gollnick\*, P.D.  
Altered sarcoplasmic reticulum function after high-intensity exercise.  
*Journal of Applied Physiology* 67(5): 2072-2077, 1989. (GWU 13713)
- Caiozzo, V.J.; Baldwin\*, K.M.  
The influence of hyperthyroidism on maximal shortening velocity of slow and fast skeletal muscle (Abstract).  
*FASEB Journal* 4(3): A815, 1990. (GWU 12153)

- Callister, R.; Callister, R.J.; Fleck, S.J.; Dudley\*, G.A.  
Blood chemistry responses to overtraining in elite judo athletes (Abstract).  
*Medicine and Science in Sports and Exercise* 21(2, Suppl.): S105, 1989. (GWU 13248)
- Callister, R.; Callister, R.J.; Fleck, S.J.; Dudley\*, G.A.  
Physiological and performance responses to overtraining in elite judo athletes.  
*Medicine and Science in Sports and Exercise* 22(6): 816-824, 1990. (GWU 13252)
- Callister, R.; Callister, R.J.; Staron, R.S.; Fleck, S.J.; Dudley\*, G.A.  
Physiological characteristics of elite judo athletes (Abstract).  
*Medicine and Science in Sports and Exercise* 22(2, Suppl.): S68, 1990. (GWU 13244)
- Cann\*, C.E.; Oganov, V.S.  
Direct measurement of spinal muscle atrophy in long term spaceflight (Abstract).  
*Aviation, Space, and Environmental Medicine* 58(5): 500, 1987. (GWU 8831)
- Castleman\*, K.R.; Chui, L.A.; Martin, T.P.; Edgerton\*, V.R.  
Quantitative muscle biopsy analysis.  
*Monographs in Clinical Cytology* 9: 101-116, 1984. (GWU 7094)
- Castleman\*, K.R.; Chui, L.A.; Van Der Meulen, J.P.  
Experiment K-308: Automatic analysis of muscle fibers from rats subjected to spaceflight.  
In: *Final Reports of U.S. Rat Experiments Flown on the Soviet Satellite Cosmos 1129* (Heinrich, M.R., Souza, K.A., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 267-278, 1981. (NASA-TM-81289) (GWU 2376)
- Cavanaugh, D.J.; Cann\*, C.E.  
Training affects phosphorus metabolism of elite swimmer (Abstract).  
*Medicine and Science in Sports and Exercise* 21(2, Suppl.): S72, 1989. (GWU 14657)
- Cavanaugh, D.J.; Kurhanewicz, J.; Cann\*, C.E.  
Innate muscle differences between elite and recreational athletes (Abstract).  
*Medicine and Science in Sports and Exercise* 21(2, Suppl.): S69, 1989. (GWU 14658)
- Chalmers, G.R.; Edgerton\*, V.R.  
Marked and variable inhibition by chemical fixation of cytochrome oxidase and succinate dehydrogenase in single motoneurons.  
*Journal of Histochemistry and Cytochemistry* 37(6): 899-901, 1989. (GWU 14639)
- Chalmers, G.R.; Edgerton\*, V.R.  
Single motoneuron succinate dehydrogenase activity.  
*Journal of Histochemistry and Cytochemistry* 37(7): 1107-1114, 1989. (GWU 14640)
- Chalmers, G.R.; Roy, R.R.; Edgerton\*, V.R.  
Coordination of succinate dehydrogenase activity between motoneurons and muscle fibers in the normal and functionally overloaded cat plantaris (Abstract).  
*Society for Neuroscience Abstracts* 16(1): 119, 1990. (GWU 14154)
- Chalmers, G.R.; Roy, R.R.; Edgerton\*, V.R.  
Effect of quantity of action potentials on motoneuron oxidative capacity (Abstract).  
*Society for Neuroscience Abstracts* 15: 919, 1989. (GWU 13663)
- Chalmers, G.R.; Roy, R.R.; Edgerton\*, V.R.  
Normal succinate dehydrogenase activity in motoneurons six months after spinal isolation (Abstract).  
*Society for Neuroscience Abstracts* 14: 689, 1988. (GWU 11079)

Chui, L.A.; Castleman\*, K.R.

Morphometric analysis of rat muscle fibers following space flight and hypogravity.  
*Physiologist* 23(6, Suppl): S76-S78, 1980. (GWU 2309)

Chui, L.A.; Castleman\*, K.R.; Van Der Meulen, J.P.

Morphometric analysis of rat muscle fibers following space flight.

In: *Advances in Physiological Sciences*, Vol. 19: Gravitational Physiology (Hideg, J., Gazonko, O., Eds.). New York: Pergamon Press, p. 113-119, 1981. (GWU 2036)

Colliander, E.B.; Dudley, G.A.; Tesch, P.A. (Convertino, V.A. = P.I.)

Skeletal muscle fiber type composition and performance during repeated bouts of maximal, concentric contractions.

*European Journal of Applied Physiology* 58: 81-86, 1988. (GWU 9350)

Convertino\*, V.A.; Doerr, D.F.; Mathes, K.L.; Stein, S.L.; Buchanan\*, P.

Changes in volume, muscle compartment, and compliance of the lower extremities in man following 30 days of exposure to simulated microgravity.

*Aviation, Space, and Environmental Medicine* 60(7): 653-658, 1989. (GWU 11268)

Cope, T.C.; Bodine, S.C.; Fournier, M.; Edgerton\*, V.R.

Soleus motor units in chronic spinal transected cats: Physiological and morphological alterations.

*Journal of Neurophysiology* 55(6): 1202-1220, 1986. (GWU 7744)

Courtright, J.B.; Song, E.; Witzmann, F.A.; Kim, D.H.; Unsworth, B.R.; Fitts\*, R.H.

Alterations in sarcoplasmic and mitochondrial enzymes during immobilization of fast and slow muscle (Abstract).

*Medicine and Science in Sports and Exercise* 12(2): 91, 1980. (GWU 640)

D'Amelio, F.; Daunton\*, N.G.; Fast, T.; Grindeland\*, R.

Preliminary findings in the neuromuscular junctions of the soleus muscle of adult rats subjected to simulated weightlessness. Light and electron microscopy (Abstract).

In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 204-205. (GWU 9952)

D'Aunno, D.S.; Thomason, D.B.; Booth\*, F.W.

Centrifugal intensity and duration as countermeasures to soleus muscle atrophy.

*Journal of Applied Physiology* 69(4): 1387-1389, 1990. (GWU 13989)

Day, L.J.; Riley\*, D.A.

Effects of hypothyroidism and denervation on the actomyosin ATPase activity of rat soleus muscle fibers (Abstract).

*Anatomical Record* 196(3): 43A, 1980. (GWU 1846)

de Guzman, C.P.; Roy, R.R.; Hodgson, J.A.; Edgerton\*, V.R.

EMG amplitude relationships in hindlimb muscles of adult spinal cats during locomotion (Abstract).

*Medicine and Science in Sports and Exercise* 22(2, Suppl.): S117, 1990. (GWU 14656)

de Leon, R.D.; Roy, R.R.; Hodgson, J.A.; Edgerton\*, V.R.

EMG amplitude relationships between rectus femoris and vastus lateralis during treadmill locomotion in rats (Abstract).

*Medicine and Science in Sports and Exercise* 22(2, Suppl.): S117, 1990. (GWU 14655)

Dekhuijzen, A.J.; Roy, R.R.; Edgerton\*, V.R.

Spatial distribution of motor units: A general pattern? (Abstract)

*Society for Neuroscience Abstracts* 16(1): 330, 1990. (GWU 14122)

- DuBois, D.C.; Almon\*, R.R.  
Glucocorticoid sites in skeletal muscle: Adrenalectomy, maturation, fiber type, and sex.  
*American Journal of Physiology* 247: E118-E125, 1984. (GWU 6005)
- DuBois, D.C.; Almon\*, R.R.  
Perineal muscles: Possible androgen regulation of glucocorticoid receptor sites in the rat.  
*Journal of Endocrinology* 102: 225-229, 1984. (GWU 6021)
- DuBois, D.C.; Max\*, S.R.  
Effect of denervation and reinnervation on oxidation of [6-<sup>14</sup>C] glucose by rat skeletal muscle homogenates.  
*Journal of Neurochemistry* 40(3): 727-733, 1983. (GWU 5021)
- Dudley\*, G.; Buchanan\*, P.; Tesch, P.  
Value of eccentric actions in loading muscle during resistance exercise (Abstract).  
*Aviation, Space, and Environmental Medicine* 61(5): 502, 1990. (GWU 13192)
- Dudley\*, G.; Tesch, P.; Duvoisin, M.; Hather, B.; Harris, R.  
Force and integrated electromyographic (IEMG) responses to "all-out" eccentric or concentric muscle actions (Abstract).  
*Medicine and Science in Sports and Exercise* 22(2, Suppl.): S38, 1990. (GWU 13249)
- Dudley, G.A. (Convertino, V.A. = P.I.)  
Metabolic consequences of resistive-type exercise.  
*Medicine and Science in Sports and Exercise* 20(5): S158-S161, 1988. (GWU 10806)
- Dudley\*, G.A.; Duvoisin, M.R.; Convertino\*, V.A.; Buchanan\*, P.  
Alterations of the *in vivo* torque-velocity relationship of human skeletal muscle following 30 days exposure to simulated microgravity.  
*Aviation, Space, and Environmental Medicine* 60(7): 659-663, 1989. (GWU 11267)
- Dudley\*, G.A.; Duvoisin, M.R.; Tesch, P.A.  
Force and EMG power spectrum in response to concentric and eccentric exercise.  
*IEEE Transactions on Biomedical Engineering* 11: 280-281, 1989.
- Dudley\*, G.A.; Gollnick\*, P.D.; Convertino\*, V.A.; Buchanan\*, P.  
Changes of muscle function and size with bedrest.  
*Physiologist* 32(1, Suppl.): S65-S66, 1989. (GWU 13395)
- Dudley, G.A.; Gollnick, P.D.; Convertino\*, V.A.; Buchanan\*, P.  
Changes of muscle function and size with bedrest (Abstract).  
*Physiologist* 31(4): A105, 1988. (GWU 10557)
- Dudley\*, G.A.; Harris, R.T.; Duvoisin, M.R.; Hather, B.M.; Buchanan\*, P.  
Effect of voluntary vs. artificial activation on the relationship of muscle torque to speed.  
*Journal of Applied Physiology* 69(6): 2215-2221, 1990. (GWU 13253)
- Duvoisin, M.R.; Convertino\*, V.A.; Buchanan\*, P.; Gollnick\*, P.D.; Dudley\*, G.A.  
Characteristics and preliminary observations of the influence of electromyostimulation on the size and function of human skeletal muscle during 30 days of simulated microgravity.  
*Aviation, Space, and Environmental Medicine* 60(7): 671-678, 1989. (GWU 11271)
- Duvoisin, M.R.; Reed, H.E.; Doerr, D.F.; Dudley, G.A.; Buchanan\*, P.  
A newly developed EMS unit: Some preliminary results demonstrating its efficacy.  
In: *Proceedings of the 10th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, New Orleans, LA, November 4-7, 1988, p. 1677-1678. (GWU 9349)

Edgerton\*, R.

Exercise issues related to the neuromuscular function and adaptation to microgravity.

In: *Workshop on Exercise Prescription for Long-Duration Space Flight* (Harris, B.A., Jr., Stewart, D.F., Eds.). Houston, TX: NASA, Johnson Space Center, p. 77-78, 1989. (NASA-CP-3051) (GWU 7946)

Edgerton\*, R.

Muscle group.

In: *Workshop on Exercise Prescription for Long-Duration Space Flight* (Harris, B.A., Jr., Stewart, D.F., Eds.). Houston, TX: NASA, Johnson Space Center, p. 119-120, 1989. (NASA-CP-3051) (GWU 8527)

Edgerton\*, R.; Miu, B.; Martin, T.P.; Roy, R.; Marini, J.; Leger, J.J.; Oganov, V.; Ilyina-Kakueva, E.  
Experiment K-6-07: Metabolic and morphologic properties of muscle fibers after spaceflight.

In: *Final Reports of the U.S. Experiments Flown on the Soviet Biosatellite Cosmos 1887* (Connolly, J.P., Grindeland, R.E., Ballard, R.W., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 183-205, 1990. (NASA-TM-102254) (GWU 13125)

Edgerton\*, V.R.; Roy, R.

Possible causes of muscle atrophy associated with spaceflight (Abstract).

In: *Abstracts, Twenty-Sixth Plenary Meeting of the Committee on Space Research*, Toulouse, France, June 30-July 11, 1986, p. 302. (GWU 7842)

Edgerton\*, V.R.; Roy, R.R.; Martin, T.P.; Herbert, M.; Hauschka, E.O.

Some factors that influence the neuromuscular response to spaceflight and simulation models of spaceflight (Abstract).

In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 161-163. (GWU 9930)

Eldred, E.; Ounjian, M.; Roy, R.R.; Edgerton\*, V.R.

Geometric pattern of tapering in fast muscle fibers of cat tibialis anterior (Abstract).

*Society for Neuroscience Abstracts* 15: 521, 1989. (GWU 13665)

Ellis\*, S.; Giometti, C.S.; Riley\*, D.A.

Changes in muscle protein composition induced by disuse atrophy: Analysis by two-dimensional electrophoresis.

*Physiologist* 28(6, Suppl.): S159-S160, 1985. (GWU 6758)

Ellis\*, S.; Goimetti, C.S.; Riley\*, D.A.

Changes in muscle protein composition induced by disuse atrophy: Analysis by two-dimensional electrophoresis (Abstract).

*Physiologist* 28(4): 316, 1985. (GWU 7108)

Ellis\*, S.; Lee, P.; Selzer\*, R.

Muscle magnetic resonance imaging.

In: *Exercise Countermeasures for Bed Rest Deconditioning* (Greenleaf, J., Ed.). Moffett Field, CA: NASA, Ames Research Center, p. 35-39, 1989. (NASA-TM-101045) (GWU 14676)

Ellis\*, S.; Nagainis, P.A.

Activity of calcium activated protease in skeletal muscles and its changes in atrophy and stretch.

*Physiologist* 27(6, Suppl.): S73-S74, 1984. (GWU 6222)

Ellis\*, S.; Riley\*, D.A.; Bain, J.L.W.; Barnett, J.G.

Consideration of proteolytic mechanisms of myofilament deletion observed in rat soleus muscle after real and simulated microgravity (Abstract).

In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 163-164. (GWU 9927)



- Etlinger\*, J.D.; Gu, M.; Li, X.; Weitman, D.; Rieder, R.F.  
Protease/inhibitor mechanisms involved in ATP-dependent proteolysis.  
In: *Current Trends in the Study of Intracellular Protein Degradation* (Grisolia, S., Knecht, E., Eds.).  
Vizcaya, Spain: Springer International, p. 197-216, 1989. (Cell Biology Reviews, Vol. 20) (GWU 14080)
- Fahlman, C.S.; Riley\*, D.A.  
Colchicine-induced sprouting of the neuromuscular junction in the pigeon extensor digitorum longus muscle.  
*Brain Research* 363: 156-160, 1986. (GWU 7396)
- Fell, R.D.; Gladden, L.B.; Steffen, J.M.; Musacchia\*, X.J.  
Fatigue and contraction of slow and fast muscles in hypokinetic/hypodynamic rats.  
*Journal of Applied Physiology* 58(1): 65-69, 1985. (GWU 7812)
- Fell, R.D.; Steffen, J.M.; Mook, K.A.; Musacchia\*, X.J.  
Effect of exercise on rat skeletal muscle exposed to disuse (Abstract).  
*Medicine and Science in Sports and Exercise* 19: S50, 1987. (GWU 10751)
- Fell, R.D.; Steffen, J.M.; Musacchia\*, X.J.  
Effect of hypokinesia-hypodynamia on rat muscle oxidative capacity and glucose uptake.  
*American Journal of Physiology* 249(3, Part 2): R308-R312, 1985. (GWU 7829)
- Fell, R.D.; Steffen, J.M.; Musacchia\*, X.J.  
Whole body suspension in the rat: Muscle, fluid and cardiovascular effects (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 165-167. (GWU 9972)
- Feller\*, D.D.; Ginoza\*, H.S.; Morey\*, E.R.  
Atrophy of rat skeletal muscles in simulated weightlessness.  
*Physiologist* 24(6, Suppl.): S9-S10, 1981. (GWU 2318)
- Feller\*, D.D.; Ginoza\*, H.S.; Morey\*, E.R.  
Atrophy of rat skeletal muscles in simulated weightlessness (Abstract).  
*Pflügers Archiv* 391(Suppl.): R60, 1981. (GWU 2480)
- Feller\*, D.D.; Ginoza\*, H.S.; Morey\*, E.R.; Oyama\*, J.  
Proteolytic activity of atrophied and hypertrophied soleus muscle from rats (Abstract).  
*Federation Proceedings* 39(3): 818, 1980. (GWU 338)
- Fitts\*, R.H.; Brimmer, C.J.  
Recovery in skeletal muscle contractile function after prolonged hindlimb immobilization.  
*Journal of Applied Physiology* 59(3): 916-923, 1985. (GWU 7114)
- Fitts\*, R.H.; Brimmer, C.J.; Heywood-Cooksey, A.; Timmerman, R.J.  
Single muscle fiber enzyme shifts with hindlimb suspension and immobilization.  
*American Journal of Physiology* 256: C1082-C1091, 1989. (GWU 11881)
- Fitts\*, R.H.; Costill, D.L.; Gardetto, P.R.  
Effect of swim exercise training on human muscle fiber function.  
*Journal of Applied Physiology* 66(1): 465-475, 1989. (GWU 10892)
- Fitts\*, R.H.; Courtright, J.B.; Kim, D.H.; Witzmann, F.A.  
Muscle fatigue with prolonged exercise: Contractile and biochemical alterations.  
*American Journal of Physiology* 242(1): C65-C73, 1982. (GWU 2455)

- Fitts\*, R.H.; Gardetto, P.R.; Heywood-Cooksey, A.; McDonald, K.S.; Schluter, J.M.  
Single muscle fiber: Physiological and enzyme shifts with hindlimb suspension (Abstract).  
*ASGSB Bulletin* 3(1): 72, 1989. (GWU 12077)
- Fitts\*, R.H.; Gardetto, P.R.; Heywood-Cooksey, A.L.; Unsworth, B.R.  
Functional changes in single muscle fibers with disuse atrophy (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 167-168. (GWU 9933)
- Fitts\*, R.H.; Heywood-Cooksey, A.L.  
Single fiber enzyme shifts with muscle atrophy (Abstract).  
*Medicine and Science in Sports and Exercise* 20(2, Suppl.): S77, 1988. (GWU 10890)
- Fitts\*, R.H.; Metzger, J.M.; Riley\*, D.A.; Unsworth, B.R.  
Models of disuse: A comparison of hindlimb suspension and immobilization.  
*Journal of Applied Physiology* 60(6): 1946-1953, 1986. (GWU 7377)
- Fitzsimons, D.P.; Bodell, P.W.; Baldwin\*, K.M.  
Myocardial functional correlates of cardiac myosin light chain 2 phosphorylation.  
*Journal of Applied Physiology* 68(6): 2426-2433, 1990. (GWU 13774)
- Fitzsimons, D.P.; Diffie, G.M.; Herrick, R.E.; Baldwin\*, K.M.  
Effects of endurance exercise on isomyosin patterns in fast- and slow-twitch skeletal muscles.  
*Journal of Applied Physiology* 68(5): 1950-1955, 1990. (GWU 13773)
- Flynn, D.E.; Max\*, S.R.  
Effects of suspension hypokinesia/hypodynamia on rat skeletal muscle.  
*Aviation, Space, and Environmental Medicine* 56(11): 1065-1069, 1985. (GWU 7115)
- Frey\*, M.A.  
Discussion with query and answer.  
In: *Workshop on Exercise Prescription for Long-Duration Space Flight* (Harris, B.A., Jr., Stewart, D.F., Eds.). Houston, TX: NASA, Johnson Space Center, p. 81-82, 1989. (NASA-CP-3051) (GWU 10759)
- Fujii\*, M.D.; Greenisen, M.; Schneider\*, V.  
Satellite manloads testing, Phase II. Grip strength and grasp breakaway testing (Abstract).  
*Aviation, Space, and Environmental Medicine* 61(5): 509, 1990. (GWU 13205)
- Fujii\*, M.D.; Greenisen, M.C.; Siconolfi, S.; Harris, B.M.  
Neuromuscular activity after seven days of bedrest (Abstract).  
*FASEB Journal* 4(3): A568, 1990. (GWU 12425)
- Fukunaga, T.; Shellock, F.; Roy, R.R.; Garfinkel, A.; Selzer\*, R.; Edgerton\*, V.R.  
Physiological cross-sectional areas and volumes of the muscles in the human leg (Abstract).  
*Medicine and Science in Sports and Exercise* 22(2, Suppl.): S112, 1990. (GWU 14654)
- Gardetto, P.R.; Schluter, J.M.; Fitts\*, R.H.  
Contractile function of single muscle fibers after hindlimb suspension.  
*Journal of Applied Physiology* 66(6): 2739-2749, 1989. (GWU 11239)
- Gardetto, P.R.; Schluter, J.M.; Fitts\*, R.H.  
Single muscle fiber function following hindlimb suspension (Abstract).  
*Medicine and Science in Sports and Exercise* 20: S58, 1988. (GWU 10891)
- Garfinkel, A.; Roy, R.R.; Walter, D.O.; Penaflor, G.; Jiang, B.; Fuchs, A.; Edgerton\*, V.R.  
Spatial distribution of dark ATPase fibers in the adult cat soleus muscle six months after spinal transection (Abstract).  
*Society for Neuroscience Abstracts* 15: 66, 1989. (GWU 13659)

- Geertman, R.; McMahon, A.; Angeletti, R.; Ludemann, R.; Edlinger\*, J.D.; Sabban, E.L.  
Identification of a cDNA for a novel nuclear muscle specific protein with a Glu-Pro repetitive domain (Abstract).  
*Journal of Cell Biology* 111(5, Part 1): 118a, 1990. (GWU 14077)
- Geoghegan, T.E.; Ringle, L.M.; Steffen, J.M. (Musacchia, X.J. = P.I.)  
Alpha and  $\beta$ -actin mRNA levels in rat hindlimb muscles subjected to suspension disuse (Abstract).  
*Journal of Cell Biology* 107: 686a, 1988. (GWU 10742)
- Gilders, R.; Malicky, E.; Staron, R.; Falkel, J.; Dudley\*, G.  
Resistance training does not elevate 24 hour ambulatory or resting blood pressure (Abstract).  
*Medicine and Science in Sports and Exercise* 21(2, Suppl.): S114, 1989. (GWU 13247)
- Ginoza\*, H.S.; Feller\*, D.D.; Morey\*, E.R.  
Protein turnover in atrophied muscle from rats in simulated weightlessness (Abstract).  
*Federation Proceedings* 40(3): 743, 1981. (GWU 1469)
- Ginoza\*, H.S.; Morey-Holton\*, E.  
Factors affecting atrophy of load bearing muscles of rats in simulated weightlessness (Abstract).  
*Physiologist* 26(4): A33, 1983. (GWU 4909)
- Gogia, P.P.; Schneider\*, V.S.; LeBlanc\*, A.D.; Krebs, J.; Kasson, C.; Pientok, C.  
Bed rest effect on extremity muscle torque in healthy men.  
*Archives of Physical Medicine and Rehabilitation* 69: 1030-1032, 1988. (GWU 10614)
- Gollnick\*, P.D.; Bertocci, L.A.; Kelso, T.B.; Witt, E.H.; Hodgson, D.R.  
The effect of high-intensity exercise on the respiratory capacity of skeletal muscle.  
*Pflügers Archiv* 415(4): 407-413, 1990. (GWU 13691)
- Gollnick\*, P.D.; Edgerton\*, V.R.; Saltin, B.  
Human skeletal muscle responses to spaceflight and possible countermeasures.  
In: *AIAA Space Programs and Technologies Conference*, Huntsville, AL, September 25-28, 1990, 6 p.  
(AIAA-90-3809) (GWU 13627)
- Gollnick\*, P.D.; Hodgson, D.R.; Byrd, S.R.  
Exercise-induced muscle damage: A possible lead to failures in calcium regulation.  
*Advances in Myochemistry* 2: 339-350, 1989.
- Gorin, A.B.; Weingarten, J.; Leblanc\*, A.; Stevens, P.  
External radioflux detection: Noninvasive measurement of protein leakage in assessing lung microvascular injury.  
*Annals of the New York Academy of Sciences* 384: 411-416, 1982. (GWU 5120)
- Graham, S.C.; Roy, R.R.; Hauschka, E.O.; Edgerton\*, V.R.  
Effects of periodic weight support on medial gastrocnemius fibers of suspended rats.  
*Journal of Applied Physiology* 67(3): 945-953, 1989. (GWU 11242)
- Graham, S.C.; Roy, R.R.; West, S.P.; Thomason, D.; Baldwin\*, K.M.  
Exercise effects on the size and metabolic properties of soleus fibers in hindlimb-suspended rats.  
*Aviation, Space, and Environmental Medicine* 60(3): 226-234, 1989. (GWU 11303)
- Graham, T.E.; Bangsbo, J.; Gollnick\*, P.D.; Juel, C.; Saltin, B.  
Ammonia metabolism during intense dynamic exercise and recovery in humans.  
*American Journal of Physiology* 259(2): E170-E176, 1990. (GWU 13689)
- Gregor, R.J.; Edgerton, V.R.; Rozenek, R.; Castleman\*, K.R.  
Skeletal muscle properties and performance in elite female track athletes.  
*European Journal of Applied Physiology* 47: 355-364, 1981. (GWU 4454)

Grindeland\*, R.; Fast, T.; Ruder, M.; Vasques, M.; Lundgren, P.; Scibetta, S.; Tremor, J.; Buckendahl, P.; Keil\*, L.; Chee, O.; Reilly, T.; Dalton, B.; Callahan\*, P.  
Rodent body, organ, and muscle weight responses to seven days of microgravity (Abstract).  
*Physiologist* 28(4): 375, 1985. (GWU 7128)

Grindeland\*, R.E.; Fast, T.N.; Vasques, M.; Satyanaranyana, T.; Ruder, M.  
Does altered growth hormone physiology play a role in muscle atrophy of simulated weightlessness?  
(Abstract)  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 82-83. (GWU 9964)

Harris, B.A., Jr.; Fujii, M.; Schneider\*, V.  
Exercise and the musculoskeletal system: Future considerations for extended space flight (Abstract).  
In: *Symposium on Lunar Bases and Space Activities in the 21st Century*. Houston, TX: Lunar and Planetary Institute, p. 105, 1988. (GWU 10525)

Hatfaludy, S.; Shansky, J.; Vandeburgh\*, H.H.  
Glucose uptake and lactate efflux during stretch-relaxation activity of cultured skeletal myotubes (Abstract).  
*FASEB Journal* 2(6): A759, 1988. (GWU 9030)

Hatfaludy, S.; Shansky, J.; Vandeburgh\*, H.H.  
Skeletal muscle cell growth and creatine kinase release during stretch/relaxation activity in tissue culture  
(Abstract).  
*Canadian Journal of Sports Science* 13: 15P, 1988. (GWU 9828)

Hather, B.; Dudley\*, G.  
Demonstration of muscle fiber types and capillarity on the same transverse section (Abstract).  
*Medicine and Science in Sports and Exercise* 22(2, Suppl.): S71, 1990. (GWU 13243)

Hather, B.; Duvoisin, M.; Harris, R.; Buchanan\*, P.; Dudley\*, G.  
Mechanics of voluntary and involuntary muscle actions (Abstract).  
*Medicine and Science in Sports and Exercise* 21(2, Suppl.): S68, 1989. (GWU 13250)

Hauschka, E.; Roy, R.R.; Edgerton\*, V.R.  
Hindlimb suspension effects on the morphologic and metabolic properties of the rat soleus (Abstract).  
*Physiologist* 28(4): 315, 1985. (GWU 7134)

Hauschka, E.O.; Roy, R.R.; Edgerton\*, V.R.  
Periodic weight support effects on rat soleus fibers after hindlimb suspension.  
*Journal of Applied Physiology* 65(3): 1231-1237, 1988. (GWU 11344)

Hauschka, E.O.; Roy, R.R.; Edgerton\*, V.R.  
Size and metabolic properties of single muscle fibers in rat soleus after hindlimb suspension.  
*Journal of Applied Physiology* 62(6): 2338-2347, 1987. (GWU 8164)

Hayes, J.C.; Roper, M.L.; Mazzocca, A.D.; Charles\*, J.B.; Siconolfi, S.F.  
Effects of simulated weightlessness on postural muscle performance (Abstract).  
*Aviation, Space, and Environmental Medicine* 61(5): 502, 1990. (GWU 13193)

Herbert, M.E.; Roy, R.R.; Edgerton\*, V.R.  
Influence of one-week hindlimb suspension and intermittent high load exercise on rat muscles.  
*Experimental Neurology* 102: 190-198, 1988. (GWU 11224)

Herbert, M.E.; Roy, R.R.; Hodgson, J.A.; Edgerton\*, V.R.  
Influence of one week hindlimb suspension and intermittent high load exercise on rat muscles (Abstract).  
*Physiologist* 30(4): 170, 1987. (GWU 10917)

- Herbison, G.J.; Talbot\*, J.M. (Eds.)  
*Final Report Phase IV: Research Opportunities in Muscle Atrophy*. Bethesda, MD: Federation of American Societies for Experimental Biology, 83 p., 1984. (GWU 5653)
- Herbison, G.J.; Talbot\*, J.M. (Eds.)  
*Final Report Phase IV: Research Opportunities in Muscle Atrophy*. Washington, DC: NASA Headquarters, 95 p., 1984. (NASA-CR-3796) (GWU 5654)
- Hikida, R.S.; Gollnick\*, P.D.; Dudley\*, G.A.; Convertino\*, V.A.; Buchanan\*, P.  
 Structural and metabolic characteristics of human skeletal muscle following 30 days of simulated microgravity.  
*Aviation, Space, and Environmental Medicine* 60(7): 664-670, 1989. (GWU 11270)
- Hoar, P.E.; Kerrick\*, W.G.L.  
 Differentiation of cat muscle fiber types: Use of skinned fibers (Abstract).  
*Biophysical Journal* 37: 128a, 1982. (GWU 2586)
- Hodgson, J.A.; Balnave, R.; Roy, R.R.; Gregor, R.G.; Edgerton\*, V.R.  
 Potential mechanisms for enhancement of muscle force-velocity relationships during movement (Abstract).  
*Journal of Biomechanics* 22(10): 1024, 1989. (GWU 14646)
- Hodgson, J.A.; Garfinkel, A.; Roy, R.R.; Gregor, R.G.; Edgerton\*, V.R.  
 A mathematical simulation of neural control in a motoneuron pool (Abstract).  
*Society for Neuroscience Abstracts* 15: 606, 1989. (GWU 13664)
- Hodgson, J.A.; Lee, P.L.; Barker, P. (Selzer, R.H. = P.I.)  
 Magnetic resonance imaging of rat hindlimb muscles (Abstract).  
 In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 49. (GWU 10924)
- Hoffmann, S.J.; Roy, R.R.; Blanco, C.E.; Edgerton\*, V.R.  
 Enzyme profiles of single muscle fibers never exposed to normal neuromuscular activity.  
*Journal of Applied Physiology* 69(3): 1150-1158, 1990. (GWU 14650)
- Hoh\*, J.F.Y.; Hughes, S.; Hale, P.T.; Fitzsimons, R.B.  
 Immunocytochemical and electrophoretic analyses of changes in myosin gene expression in cat limb fast and slow muscles during postnatal development.  
*Journal of Muscle Research and Cell Motility* 9: 30-47, 1988. (GWU 11306)
- Hoh\*, J.F.Y.; Hughes, S.; Hugh, G.; Pozgaj, I.  
 Three hierarchies in skeletal muscle fibre classification: Allotype, isotype and phenotype.  
 In: *Cellular and Molecular Biology of Muscle Development*. New York: Alan R. Liss, p. 15-26, 1989. (GWU 11305)
- Howard, G.; Steffen, J.M.; Geoghegan, T.E. (Musacchia, X.J. = P.I.)  
 Evaluation of protein synthesis regulation in skeletal muscle atrophy (Abstract).  
*Federation Proceedings* 45(4): 645, 1986. (GWU 8062)
- Howard, G.; Steffen, J.M.; Geoghegan, T.E. (Musacchia, X.J. = P.I.)  
 Transcriptional regulation of decreased protein synthesis during skeletal muscle unloading.  
*Journal of Applied Physiology* 66(3): 1093-1098, 1989. (GWU 10755)
- Hsu, E.S.; Garfinkel, A.; Eldred, E.; Roy, R.R.; Edgerton\*, V.R.  
 Three dimensional analyses and imaging of all fibers belonging to a motor unit (Abstract).  
*Society for Neuroscience Abstracts* 16(1): 119, 1990. (GWU 14153)

- Hutchison, D.L.; Roy, R.R.; Bodine-Fowler, S.; Hodgson, J.A.; Edgerton\*, V.R.  
Electromyographic (EMG) amplitude patterns in the proximal and distal compartments of the cat semitendinosus during various motor tasks.  
*Brain Research* 479: 56-64, 1989. (GWU 14641)
- Hutchison, D.L.; Roy, R.R.; Hodgson, J.A.; Edgerton\*, V.R.  
EMG amplitude relationships between the rat soleus and medial gastrocnemius during various motor tasks.  
*Brain Research* 502: 233-244, 1989. (GWU 14644)
- Hutton, R.S.; Roy, R.R.; Edgerton\*, V.R.  
Co-contractions in antagonistic hindlimb muscles during simulated step cycle rates.  
*Brain Research* 492: 230-236, 1989. (GWU 14643)
- Hutton, R.S.; Roy, R.R.; Edgerton\*, V.R.  
Electrical activation of rat lateral gastrocnemius-soleus (LGS) and tibialis anterior (TA) muscles by simulating temporal patterns observed during treadmill locomotion: Does co-contraction influence step cycle frequency? (Abstract)  
*Society for Neuroscience Abstracts* 13(2): 1177, 1987. (GWU 11058)
- Janeczko, R.A.; Carriere, R.M.; Etlinger\*, J.D.  
Endocytosis, proteolysis, and exocytosis of exogenous proteins by cultured myotubes.  
*Journal of Biological Chemistry* 260(11): 7051-7058, 1985. (GWU 7146)
- Janeczko, R.A.; Etlinger\*, J.D.  
Inhibition of intracellular proteolysis in muscle cultures by multiplication-stimulating activity: Comparison of effects of multiplication-stimulating activity and insulin on proteolysis, protein synthesis, amino acid uptake, and sugar transport.  
*Journal of Biological Chemistry* 259(10): 6292-6297, 1984. (GWU 6022)
- Janeczko, R.A.; Tomina, H.; Carriere, R.M.; Etlinger\*, J.D.  
Fate of exogenous proteins after internalization by endocytosis and microinjection in cultured myotubes.  
*Progress in Clinical and Biological Research* 180: 467-470, 1985. (GWU 7147)
- Jansson, E.; Dudley\*, G.A.; Norman, B.; Tesch, P.A.  
Relationship of recovery from intense exercise to the oxidative potential of skeletal muscle.  
*Acta Physiologica Scandinavica* 139(1): 147-152, 1990. (GWU 13255)
- Jaweed, M.M.; Alleva, F.R.; Herbison\*, G.J.; Ditunno, J.F.; Balazs, T.  
Muscle atrophy and histopathology of the soleus in 6-mercaptopurine-treated rats.  
*Experimental and Molecular Pathology* 43: 74-81, 1985. (GWU 5998)
- Jaweed, M.M.; Bozentka, D.; Hume, E.L.; Perlmutter, M.; Herbison\*, G.J.  
Effect of long term endurance and strengthening exercises on slow and fast muscles of the rat (Abstract).  
*Archives of Physical Medicine and Rehabilitation* 68(9): 662, 1987. (GWU 8123)
- Jaweed, M.M.; Herbison\*, G.J.; Ditunno, J.F.  
Quantitative evaluation of wrist-extensor muscle strength in quadriplegic human subjects (Abstract).  
*Federation Proceedings* 45(4): 547, 1986. (GWU 8066)
- Jaweed, M.M.; Herbison\*, G.J.; Ditunno, J.F., Jr.  
Influence of brief isometric training on isometric and isokinetic strength of the human quadriceps muscle (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 91-92. (GWU 9995)
- Jaweed, M.M.; Herbison\*, G.J.; Merli, G.J.; Ditunno, J.F., Jr.  
Doppler evaluation of blood flow velocity in the spinal cord injured subjects (Abstract).  
*Archives of Physical Medicine and Rehabilitation* 68(9): 657, 1987. (GWU 8956)

- Jaweed, M.M.; Hume, E.L.; Herbison\*, G.J.; Perlmutter, M.N.  
Weight lifting-induced fascicular pathology in the rat soleus (Abstract).  
*Federation Proceedings* 46: 319, 1987. (GWU 11103)
- Jiang, B.; Roy, R.R.; Edgerton\*, V.R.  
Enzymatic plasticity of medial gastrocnemius fibers in the adult chronic spinal cat.  
*American Journal of Physiology* 259: C507-C514, 1990. (GWU 14649)
- Jiang, B.; Roy, R.R.; Edgerton\*, V.R.  
Enzymatic profile of single fibers of medial gastrocnemius muscle in adult spinal cat (Abstract).  
*Medicine and Science in Sports and Exercise* 22(2, Suppl.): S107, 1990. (GWU 14653)
- Jiang, B.; Roy, R.R.; Edgerton\*, V.R.  
Expression of a fast fiber enzyme profile in the cat soleus after spinalization.  
*Muscle & Nerve* 13: 1037-1049, 1990. (GWU 14651)
- Jiang, B.; Roy, R.R.; Edgerton\*, V.R.  
Oxidative capacity and soma size of lumbar motoneurons after space flight and hindlimb suspension (Abstract).  
*Physiologist* 33(4): A76, 1990. (GWU 13285)
- Jiang, B.; Roy, R.R.; Pierotti, D.J.; Edgerton\*, V.R.  
Metabolic and size properties of soleus muscle fibers of adult spinalized cats (Abstract).  
*Society for Neuroscience Abstracts* 15: 66, 1989. (GWU 13658)
- Kim, D.H.; Courtright, J.B.; Unsworth, B.R.; Witzmann, F.A.; Fitts\*, R.H.  
The effect of hindlimb immobilization on the sarcoplasmic reticulum of fast and slow skeletal muscle (Abstract).  
*Medicine and Science in Sports and Exercise* 12(2): 90-91, 1980. (GWU 813)
- Kim, D.H.; Fitts\*, R.H.  
Phosphoprotein formation in sarcoplasmic reticulum of fast and slow skeletal muscle: The effect of hindlimb immobilization (Abstract).  
*Federation Proceedings* 41: 1595, 1982. (GWU 4034)
- Kim, D.H.; Wible, G.S.; Witzmann, F.A.; Fitts\*, R.H.  
The effect of exercise-training on sarcoplasmic reticulum function in fast and slow skeletal muscle.  
*Life Sciences* 28(23): 2671-2677, 1981. (GWU 1847)
- Kim, D.H.; Witzmann, F.A.; Fitts\*, R.H.  
A comparison of sarcoplasmic reticulum function in fast and slow skeletal muscle using crude homogenate and isolated vesicles.  
*Life Sciences* 28(19): 2223-2229, 1981. (GWU 1848)
- Kim, D.H.; Witzmann, F.A.; Fitts\*, R.H.  
Effect of disuse on sarcoplasmic reticulum in fast and slow skeletal muscle.  
*American Journal of Physiology* 243: C156-C160, 1982. (GWU 4120)
- Konagaya, M.; Bernard, P.A.; Max\*, S.R.  
Blockade of glucocorticoid receptor binding and inhibition of dexamethasone-induced muscle atrophy in the rat by RU38486, a potent glucocorticoid antagonist.  
*Endocrinology* 119(1): 375-380, 1986. (GWU 7454)
- Konagaya, M.; Max\*, S.R.  
A possible role for endogenous glucocorticoids in orchietomy-induced atrophy of the rat levator ani muscle: Studies with RU 38486, a potent and selective antiglucocorticoid.  
*Journal of Steroid Biochemistry* 25(3): 305-308, 1986. (GWU 7453)

- Krebs, J.M.; Schneider\*, V.S.; LeBlanc\*, A.; Evans, H.; Kuo, M.  
Lean body mass and total body fat changes during five weeks of continuous bedrest (Abstract).  
*Aviation, Space, and Environmental Medicine* 60(5): 481, 1989. (GWU 14380)
- Kuhn, F.E.; Max\*, S.R.  
Testosterone and muscle hypertrophy in female rats.  
*Journal of Applied Physiology* 59(1): 24-27, 1985. (GWU 7154)
- LeBlanc\*, A.; Evans, H.; Schonfeld, E.; Ford, J.; Marsh, C.; Schneider\*, V.; Johnson\*, P.  
Relaxation times of normal and atrophied muscle.  
*Medical Physics* 13(4): 514-517, 1986. (GWU 7806)
- LeBlanc\*, A.; Evans, H.; Schonfeld, E.; Ford, J.; Schneider\*, V.; Jhingran, S.; Johnson\*, P.  
Changes in nuclear magnetic resonance (T2) relaxation of limb tissue with bed rest.  
*Magnetic Resonance in Medicine* 4: 487-492, 1987. (GWU 8769)
- LeBlanc\*, A.; Gogia, P.; Schneider\*, V.; Krebs, J.; Schonfeld, E.; Evans, H.  
Calf muscle area and strength changes after five weeks of horizontal bed rest.  
*American Journal of Sports Medicine* 16(6): 624-629, 1988. (GWU 10615)
- Lee, P.L.; Kwong-Fu, H.H.; Frieden, H.J.; Selzer\*, R.H.  
3-D display of magnetic resonance images.  
In: *Proceedings of the Twelfth Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Philadelphia, PA, November 1-4, 1990, p. 1180-1181. (GWU 13964)
- Lee, P.L.; Selzer\*, R.H.; Ellis\*, S.  
Determination of leg muscle volume by magnetic resonance imaging (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 168-169. (GWU 9929)
- Li, X.; Gu, M.; Etlinger\*, J.D.  
Isolation and characterization of a 50 kd endogenous inhibitor of the proteasome from human erythrocytes (Abstract).  
*FASEB Journal* 4(7): A2157, 1990. (GWU 14078)
- Lieber, R.L.; Ferro, T.D.; Hargens\*, A.R.  
Differential effects of 10-Hz and 50 Hz-stimulation of the tibialis anterior on the ipsilateral, unstimulated soleus muscle.  
*Experimental Neurology* 100: 426-435, 1988. (GWU 10708)
- Lieber, R.L.; Ferro, T.F.; Hargens\*, A.R.; Akeson, W.H.  
Effects of functional electrical stimulation on opposing, unstimulated muscles (Abstract).  
*Transactions of the Annual Meeting, Orthopaedic Research Society* 12: 331, 1987. (GWU 10704)
- Lieber, R.L.; Fridén, J.O.; Hargens\*, A.R.; Danzig, L.A.; Gershuni, D.H.  
Differential response of the dog quadriceps muscle to external skeletal fixation of the knee.  
*Muscle & Nerve* 2: 193-201, 1988. (GWU 10710)
- Loughna, P.T.; Goldspink, D.F.; Goldspink\*, G.  
Effects of hypokinesia and hypodynamia upon protein turnover in hindlimb muscles of the rat.  
*Aviation, Space, and Environmental Medicine* 58(9, Suppl.): A133-A138, 1987. (GWU 8671)
- Loughna, P.T.; Goldspink, D.F.; Goldspink\*, G.E.  
Effects of hypokinesia and hypodynamia upon protein turnover in hindlimb muscles of the rat (Abstract).  
In: *Abstracts of Papers, Physiologic Adaptation of Man in Space, 7th International Man in Space Symposium*, Houston, TX, February 10-13, 1986, 2 p. (GWU 7765)



- Lovely, R.G.; Gregor, R.J.; Roy, R.R.; Edgerton\*, V.R.  
Effects of training on the recovery of full-weight-bearing stepping in the adult spinal cat.  
*Experimental Neurology* 92: 421-435, 1986. (GWU 12045)
- Lovely, R.G.; Gregor, R.J.; Roy, R.R.; Edgerton\*, V.R.  
Weight-bearing hindlimb stepping in treadmill-exercised adult spinal cats.  
*Brain Research* 514(2): 206-218, 1990. (GWU 14046)
- MacIntosh, A.M.; Baldwin\*, K.M.; Herrick, R.E.  
Biochemical and functional indices of contractile potential in the developing rat myocardium (Abstract).  
*Physiologist* 25(4): 319, 1982. (GWU 3421)
- MacIntosh, A.M.; Baldwin\*, K.M.; Herrick, R.E.  
Biochemical changes in neonatal rat muscle following repeated exercise (Abstract).  
*Medicine and Science in Sports and Exercise* 13(2): 81, 1981. (GWU 12646)
- Marsh, C.L.; LeBlanc\*, A.D.; Schneider\*, V.; Johnson\*, P.C.  
Muscle atrophy with 14-90 days suspension of the rat (Abstract).  
*Federation Proceedings* 44(3): 622, 1985. (GWU 7181)
- Martin, T.P.; Edgerton\*, V.R.; Grindeland\*, R.E.  
The influence of space flight on the rat soleus (Abstract).  
*Physiologist* 28(4): 379, 1985. (GWU 7182)
- Martin, T.P.; Edgerton\*, V.R.; Grindeland\*, R.E.  
Influence of spaceflight on rat skeletal muscle.  
*Journal of Applied Physiology* 65(5): 2318-2325, 1988. (GWU 10685)
- Martin, T.P.; Gundersen, L.A.; Vailas\*, A.C.; Edgerton\*, V.R.; Das, S.K.  
Incomplete normalization of dog gracilis muscle grafts with neurovascular repair despite long-term recovery.  
*Journal of Applied Physiology* 68(2): 687-692, 1990. (GWU 14648)
- Martin, T.P.; Vailas, A.C.; Durivage, J.B.; Edgerton\*, V.R.; Castleman\*, K.R.  
Quantitative histochemical determination of muscle enzymes: Biochemical verification.  
*Journal of Histochemistry and Cytochemistry* 33(10): 1053-1059, 1985. (GWU 7673)
- Max\*, S.R.  
Androgen-estrogen synergy in rat levator ani muscle: Glucose-6-phosphate dehydrogenase.  
*Molecular and Cellular Endocrinology* 38: 103-107, 1984. (GWU 7184)
- Max\*, S.R.  
Cytosolic androgen receptor in skeletal muscle from normal and testicular feminization mutant (Tfm) rats.  
*Biochemical and Biophysical Research Communications* 101(3): 792-799, 1981. (GWU 2311)
- Max\*, S.R.; Hall-Craggs, E.C.B.; Chacon, M.  
Fibre-type specificity and effect of thyroid hormone on glucose 6-phosphate dehydrogenase activity in normal and denervated skeletal muscles of the rat.  
*Histochemical Journal* 17: 699-706, 1985. (GWU 7185)
- Max\*, S.R.; Markelonis, G.J.  
Neural control of muscle.  
*Neurochemistry International* 5(6): 675-683, 1983. (GWU 9662)
- Max\*, S.R.; Mayer, R.F.  
Physiologic and biochemical aspects of skeletal muscle denervation and reinnervation.  
In: *Peripheral Neuropathy*, Vol. 1, 2nd Edition (Dyck, P.J., Thomas, P.K., Lambert, E.H., Bunge, R., Eds.). Philadelphia, PA: W.B. Saunders, p. 400-419, 1984. (GWU 5766)

- Max\*, S.R.; Mufti, S.; Carlson, B.M.  
Androgen receptor in regenerating rat levator ani muscle (Abstract).  
*Society for Neuroscience Abstracts* 7: 554, 1981. (GWU 2351)
- Max\*, S.R.; Mufti, S.; Carlson, B.M.  
Cytosolic androgen receptor in regenerating rat levator ani muscle.  
*Biochemical Journal* 200: 77-82, 1981. (GWU 2312)
- Max\*, S.R.; Rance, N.E.  
No effect of sex steroids on compensatory muscle hypertrophy.  
*Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 56(6): 1589-1593, 1984. (GWU 5759)
- Max\*, S.R.; Toop, J.  
Androgens enhance 2-deoxyglucose uptake by the rat levator ani muscle in vivo (Abstract).  
*Journal of Cell Biology* 95: A358, 1982. (GWU 4579)
- Max\*, S.R.; Toop, J.  
Androgens enhance *in vivo* 2-deoxyglucose uptake by rat striated muscle.  
*Endocrinology* 113(1): 119-126, 1983. (GWU 5123)
- Mayer, R.F.; Max\*, S.R.  
Denervation and reinnervation of skeletal muscle.  
In: *Myasthenia Gravis* (Albuquerque, E.X., Eldefrawi, A.T., Eds.). New York: Chapman and Hall, p. 215-246, 1983. (GWU 4216)
- Mayer, R.F.; Max\*, S.R.; Young, J.L.  
Muscle reinnervation: Correlation of glucose 6-phosphate dehydrogenase activity and twitch tension.  
*Neurology* 31(2): 46, 1981. (GWU 3663)
- McDonald, K.S.; Delp, M.D.; Fitts\*, R.H.  
Effect of hindlimb suspension on rat blood flow distribution (Abstract).  
*ASGSB Bulletin* 4(1): 64, 1990. (GWU 13369)
- McDonald, K.S.; Schluter, J.M.; Heywood-Cooksey, A.L.; Fitts\*, R.H.  
Mechanisms of hindlimb suspension induced changes in fiber Vmax and tension (Abstract).  
*Medicine and Science in Sports and Exercise* 22(2, Suppl.): S119, 1990. (GWU 13236)
- Mednieks, M.I.; Grindeland\*, R.E.; Kvetnansky, R.  
Effect of catecholamines on cyclic AMP-receptor activity in heart tissue of restrained rats (Abstract).  
*Journal of Cell Biology* 111(5, Part 2): 215a, 1990. (GWU 14635)
- Mednieks, M.I.; Rosenfield, R.L.; Hand, A.R.; Grindeland\*, R.E.  
Cyclic AMP-receptor protein attenuation in tissues of rats after spaceflight or chronic isoproterenol treatment (Abstract).  
*Journal of Cell Biology* 109(4, Part 2): 215a, 1989. (GWU 14634)
- Merli, G.J.; Herbison\*, G.J.; Weitz, H.H.; Ditunno, J.F.; Park, C.W.; Jaweed, M.M.; Heltzel, J.  
Electrical stimulation as an effective prophylaxis for DVT in SCI subjects (Abstract).  
*Archives of Physical Medicine and Rehabilitation* 68(9): 652-653, 1987. (GWU 8121)
- Miu, B.; Martin, T.P.; Roy, R.R.; Oganov, V.; Ilyina-Kakueva, E.; Marini, J.F.; Leger, J.J.; Bodine-Fowler, S.C.; Edgerton\*, V.R.  
Metabolic and morphologic properties of single muscle fibers in the rat after spaceflight, Cosmos 1887.  
*FASEB Journal* 4: 64-72, 1990. (GWU 10982)

- Mondon, C.E.; Dolkas\*, C.; Reaven, G.M.  
Insulin sensitivity enhanced 7 days after exercise training—if overeating is avoided (Abstract).  
*Federation Proceedings* 44: 1279, 1985. (GWU 8193)
- Mondon, C.E.; Dolkas\*, C.B.; Oyama\*, J.  
Enhanced skeletal muscle insulin sensitivity in year-old rats adapted to hypergravity.  
*American Journal of Physiology* 240: E482-E488, 1981. (GWU 2363)
- Mondon, C.E.; Dolkas\*, C.B.; Sims, C.; Reaven, G.M.  
Spontaneous running activity in male rats: Effect of age.  
*Journal of Applied Physiology* 58(5): 1553-1557, 1985. (GWU 7192)
- Mondon, C.E.; Dolkas\*, C.B.; Tobey, T.; Reaven, G.M.  
Causes of the triglyceride-lowering effect of exercise training in rats.  
*Journal of Applied Physiology* 57(5): 1466-1471, 1984. (GWU 7193)
- Mondon, C.E.; Rodnick, K.; Dolkas\*, C.; Reaven, G.  
Muscle atrophy and decreased sensitivity to insulin during hindlimb suspension (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 170-171. (GWU 9924)
- Mondon, C.E.; Rodnick, K.J.; Dolkas\*, C.B.; Reaven, G.M.; Azhar, S.  
Decreased insulin sensitivity in suspended rats: Impaired insulin binding and kinase activity in receptors from soleus but not plantaris muscle (Abstract).  
*Physiologist* 30(4): 170, 1987. (GWU 11283)
- Mondon, C.E.; Sims, C.; Dolkas\*, C.B.; Reaven, E.  
Can insulin resistance of obese year-old rats be reduced by chronic exercise training? (Abstract)  
*Clinical Research* 33(1): 87A, 1985. (GWU 8192)
- Mondon, C.E.; Sims, C.; Dolkas\*, C.B.; Reaven, E.P.; Reaven, G.M.  
The effect of exercise training on insulin resistance in sedentary year old rats.  
*Journal of Gerontology* 41(5): 605-610, 1986. (GWU 7794)
- Mook, K.A.; Fell, R.D. (Musacchia, X.J. = P.I.)  
Effect of electrical stimulations on atrophying rat skeletal muscle (Abstract).  
*Federation Proceedings* 46(4): 1242, 1987. (GWU 10545)
- Mook, K.A.; Fell, R.D. (Musacchia, X.J. = P.I.)  
Effect of loaded isotonic contractions on muscle mass, strength, and fatigability in disuse atrophied rat skeletal muscle (Abstract).  
*FASEB Journal* 3(4): A987, 1989. (GWU 10744)
- Morris, G.S.; Fiore, P.V.; Hamlin, R.L.; Baldwin\*, K.M.; Sherman, W.M.  
The effects of cocaine and training on cardiac metabolism and isomyosin expression (Abstract).  
*FASEB Journal* 2(6): A1317, 1988. (GWU 9326)
- Morrison, P.R.; Booth\*, F.W.  
c-myc expression in adult skeletal muscle regrowing from atrophy (Abstract).  
*Journal of Cell Biochemistry* (S11C): 84, 1987. (GWU 8993)
- Morrison, P.R.; Montgomery, J.A.; Wong, T.S.; Booth\*, F.W.  
Cytochrome c protein-synthesis rates and mRNA contents during atrophy and recovery in skeletal muscle.  
*Biochemical Journal* 241: 257-263, 1987. (GWU 6839)
- Morrison, P.R.; Muller, G.W.; Booth\*, F.W.  
Actin synthesis rate and mRNA level increase during early recovery of atrophied muscle.  
*American Journal of Physiology* 253: C205-C209, 1987. (GWU 9011)

- Murakami, K.; Etlinger\*, J.D.  
Degradation of proteins with blocked amino groups by cytoplasmic proteases.  
*Biochemical and Biophysical Research Communications* 146(3): 1249-1255, 1987. (GWU 8969)
- Musacchia\*, X.J.  
Endocrine regulation of carbohydrate metabolism in hypometabolic animals.  
*Canadian Journal of Zoology* 66(1): 167-172, 1988. (GWU 10576)
- Musacchia\*, X.J.; Steffen, J.M.; Fell, R.  
Biochemical and histochemical observations of vastus medialis from rats flown in Cosmos 1887 (Experiment K608).  
*Physiologist* 32(1, Suppl.): S21-S22, 1989. (GWU 10828)
- Musacchia\*, X.J.; Steffen, J.M.; Fell, R.D.  
Biochemical and histochemical observations of vastus medialis from rats flown in Cosmos 1887 (Experiment K608) (Abstract).  
*Physiologist* 31: A32, 1988. (GWU 10549)
- Musacchia\*, X.J.; Steffen, J.M.; Fell, R.D.  
A comparison of responses of muscle fibers and capillarity to weightlessness, (SL-3) flight and ground based controls (Abstract).  
In: *Program and Abstracts, Second Annual Meeting of the American Society for Gravitational and Space Biology*, Charlottesville, VA, October 1-3, 1986, p. 34. (GWU 7960)
- Musacchia\*, X.J.; Steffen, J.M.; Fell, R.D.  
Disuse atrophy of skeletal muscle: Animal models.  
In: *Exercise and Sport Sciences Reviews*. Vol. 16 (Pandolf, K.B., Ed.). New York: MacMillan Publishing Co., p. 61-87, 1988. (GWU 10577)
- Musacchia\*, X.J.; Steffen, J.M.; Fell, R.D.  
Response of muscle fibers and capillarity to weightlessness (SL-3 flight) and ground controls (Abstract).  
*Federation Proceedings* 45(4): 645, 1986. (GWU 8063)
- Musacchia\*, X.J.; Steffen, J.M.; Fell, R.D.; Dombrowski, J.  
Physiological comparison of rat muscle in body suspension and weightlessness.  
*Physiologist* 30(1, Suppl.): S102-S105, 1987. (GWU 10539)
- Musacchia\*, X.J.; Steffen, J.M.; Fell, R.D.; Dombrowski, M.J.  
Comparative morphometry of fibers and capillaries in soleus following weightlessness (SL-3) and suspension.  
*Physiologist* 31(1, Suppl.): S28-S29, 1988. (GWU 9265)
- Musacchia\*, X.J.; Steffen, J.M.; Fell, R.D.; Dombrowski, M.J.  
Comparative morphometry of fibers and capillaries in soleus following weightlessness (SL-3) and suspension (Abstract).  
Abstract of paper presented at the Ninth Annual Meeting IUPS Commission on Gravitational Physiology, Nitra, Czechoslovakia, September 28-October 1, 1987, 1 p. (GWU 10741)
- Musacchia\*, X.J.; Steffen, J.M.; Fell, R.D.; Dombrowski, M.J.  
Skeletal muscle response to spaceflight, whole body suspension, and recovery in rats.  
*Journal of Applied Physiology* 69(6): 2248-2253, 1990. (GWU 9917)
- Musacchia\*, X.J.; Steffen, J.M.; Fell, R.D.; Oganov, V.S.  
Experiment K-6-08: Biochemical and histochemical observations of vastus medialis.  
In: *Final Reports of the U.S. Experiments Flown on the Soviet Biosatellite Cosmos 1887* (Connolly, J.P., Grindeland, R.E., Ballard, R.W., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 207-214, 1990. (NASA-TP-102254) (GWU 13126)

- Nguyen, N.Y.; Baumann, G.; Arbegast, D.E.; Grindeland\*, R.E.; Chrambach, A.  
Isolation of human growth hormone isohormones D and E in milligram amounts (I), using isotachopheresis on polyacrylamide gel.  
*Preparative Biochemistry* 11(2): 139-157, 1981. (GWU 2525)
- Nguyen, N.Y.; Grindeland\*, R.E.; Chrambach, A.  
Isolation of human growth hormone B using selective steady-state stacking (Abstract).  
*Federation Proceedings* 40(6): 1868, 1981. (GWU 2527)
- Nicholson, W.F.; Ikoya, P.O.; Watson, P.A.; Booth\*, F.W.  
Insulin sensitivity of mouse skeletal muscle (Abstract).  
*Federation Proceedings* 41(4): 968, 1982. (GWU 4449)
- Nicholson, W.F.; Seider, M.J.; Booth\*, F.W.  
Insulin resistance in soleus muscle of immobilized mouse limbs (Abstract).  
*Federation Proceedings* 40(3): 459, 1981. (GWU 1455)
- Nicholson, W.F.; Watson, P.A.; Booth\*, F.W.  
Glucose uptake and glycogen synthesis in muscles from immobilized limbs.  
*Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 56(2): 431-435, 1984. (GWU 5757)
- Nicholson, W.F.; Watson, P.A.; Booth\*, F.W.  
Levels of blood-borne factors and cytosol glucocorticoid receptors during the initiation of muscle atrophy in rodent hindlimbs.  
*Pflügers Archiv* 401(4): 321-323, 1984. (GWU 7196)
- Pierotti, D.J.; Roy, R.R.; Flores, V.; Edgerton\*, V.R.  
Influence of 7 days of hindlimb suspension and intermittent weight support on rat muscle mechanical properties.  
*Aviation, Space, and Environmental Medicine* 61(3): 205-210, 1990. (GWU 7921)
- Pierotti, D.J.; Roy, R.R.; Flores, V.; Edgerton\*, V.R.  
Influence of one week hindlimb suspension and intermittent low load on rat muscles (Abstract).  
*Physiologist* 30(4): 170, 1987. (GWU 8747)
- Pierotti, D.J.; Roy, R.R.; Gregor, R.J.; Edgerton\*, V.R.  
Electromyographic activity of cat hindlimb flexors and extensors during locomotion at varying speeds and inclines.  
*Brain Research* 481: 57-66, 1989. (GWU 14642)
- Pierotti, D.J.; Roy, R.R.; Hodgson, J.A.; Bodine-Fowler, S.; Edgerton\*, V.R.  
Motor units of the cat tibialis anterior 6 months after spinal isolation (Abstract).  
*Society for Neuroscience Abstracts* 15: 67, 1989. (GWU 13662)
- Pierotti, D.J.; Roy, R.R.; Hodgson, J.A.; Edgerton\*, V.R.  
Histochemical profiles of motor units of the cat tibialis anterior after 6 months of electrical inactivity (Abstract).  
*Society for Neuroscience Abstracts* 16(1): 329, 1990. (GWU 14121)
- Popiela, H.; Ellis\*, S.  
Neurotrophic factor: Characterization and partial purification.  
*Developmental Biology* 83: 266-277, 1981. (GWU 1877)
- Popiela, H.; Ellis\*, S.; Festoff, B.W.  
Dose-dependent initiation of myogenesis by neurotrophic factor.  
*Journal of Neuroscience Research* 8: 547-567, 1982. (GWU 4372)

- Popiela, H.; Taylor, D.; Ellis\*, S.; Beach, R.; Festoff, B.  
Regulation of mitotic activity and the cell cycle in primary chick muscle cells by neurotensin.  
*Journal of Cellular Physiology* 119(2): 234-240, 1984. (GWU 5708)
- Rambaut\*, P.C.; Nicogossian\*, A.E.; Pool\*, S.L.  
Muscle and the physiology of locomotion.  
*Physiologist* 26(6, Suppl.): S106-S107, 1983. (GWU 5221)
- Rance, N.E.; Max\*, S.R.  
Modulation of the cytosolic androgen receptor in striated muscle by sex steroids.  
*Endocrinology* 115(3): 862-866, 1984. (GWU 4258)
- Riley\*, D.A.  
Effects of microgravity on rat muscle.  
In: *Final Reports of the U.S. Experiments Flown on the Soviet Biosatellite Cosmos 1887* (Connolly, J.P., Grindeland, R.E., Ballard, R.W., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 45-49, 1990. (NASA-TM-102254) (GWU 13118)
- Riley\*, D.A.; Bain, J.L.W.; Ellis\*, S.; Haas, A.L.  
Quantitation and immunocytochemical localization of ubiquitin conjugates within rat red and white skeletal muscles.  
*Journal of Histochemistry and Cytochemistry* 36(6): 621-632, 1988. (GWU 10855)
- Riley\*, D.A.; Ellis\*, S.  
Research on the adaptation of skeletal muscle to hypogravity: Past and future directions.  
*Advances in Space Research* 3(9): 191-197, 1983. (GWU 5524)
- Riley\*, D.A.; Ellis\*, S.; Bain, J.  
Carbonic anhydrase activity in skeletal muscle fiber types, axons, spindles, and capillaries of rat soleus and extensor digitorum longus muscles.  
*Journal of Histochemistry and Cytochemistry* 30(12): 1275-1288, 1982. (GWU 3973)
- Riley\*, D.A.; Ellis\*, S.; Bain, J.; Sedlak, F.; Slocum, G.; Oganov, V.  
Experiment K-6-09: Morphological and biochemical investigation of microgravity-induced nerve and muscle breakdown.  
In: *Final Reports of the U.S. Experiments Flown on the Soviet Biosatellite Cosmos 1887* (Connolly, J.P., Grindeland, R.E., Ballard, R.W., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 215-261, 1990. (NASA-TM-102254) (GWU 13127)
- Riley\*, D.A.; Ellis\*, S.; Bain, J.L.W.  
Catalase-positive microperoxisomes in rat soleus and extensor digitorum longus muscle fiber types.  
*Journal of Histochemistry and Cytochemistry* 36(6): 633-637, 1988. (GWU 10760)
- Riley\*, D.A.; Ellis\*, S.; Satyanarayana, T.; Wong-Riley, M.T.T.; Slocum, G.R.; Bain, J.L.W.; Meagher, P.J.; Sedlak, F.R.  
Biochemical and ultrastructural adaptations of rat soleus muscles to suspension disuse (Abstract).  
In: *Program and Abstracts, Second Annual Meeting of the American Society for Gravitational and Space Biology*, Charlottesville, VA, October 1-3, 1986, p. 34. (GWU 7959)
- Riley\*, D.A.; Ellis\*, S.; Slocum, G.R.; Satyanarayana, T.; Bain, J.L.W.; Sedlak, F.R.  
Hypogravity-induced atrophy of rat soleus and extensor digitorum longus muscles.  
*Muscle & Nerve* 10(6): 560-568, 1987. (GWU 8161)
- Riley\*, D.A.; Ellis\*, S.; Slocum, G.R.; Satyanarayana, T.; Bain, J.L.W.; Sedlak, F.R.  
Morphological and biochemical changes in soleus and extensor digitorum longus muscles of rats orbited in Spacelab 3.  
*Physiologist* 28(6, Suppl.): S207-S208, 1985. (GWU 6896)

- Riley\*, D.A.; Ellis\*, S.; Slocum, G.R.; Sedlak, F.R.  
Segmental necrosis of muscle fibers in the soleus muscles of normal, immunized, and Spacelab-3 rats (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 106-107. (GWU 10007)
- Riley\*, D.A.; Fahlman, C.S.  
Colchicine-induced differential sprouting of the endplates on fast and slow muscle fibers in rat extensor digitorum longus, soleus and tibialis anterior muscles.  
*Brain Research* 329: 83-95, 1985. (GWU 7395)
- Riley\*, D.A.; Ilyina-Kakueva, E.I.; Ellis\*, S.; Bain, J.L.W.; Slocum, G.R.; Sedlak, F.R.  
Skeletal muscle fiber atrophy and necrosis, motor nerve degeneration, and disruption of microcirculatory vessels in hindlimb muscles of rats orbited in a Cosmos Biosatellite for 12.5 days (Abstract).  
*Anatomical Record* 223: 95A, 1989. (GWU 13549)
- Riley\*, D.A.; Ilyina-Kakueva, E.I.; Ellis\*, S.; Bain, J.L.W.; Slocum, G.R.; Sedlak, F.R.  
Skeletal muscle fiber, nerve, and blood vessel breakdown in space-flown rats.  
*FASEB Journal* 4(1): 84-91, 1990. (GWU 10985)
- Riley\*, D.A.; Ilyina-Kakueva, E.I.; Ellis\*, S.; Slocum, G.R.; Bain, J.L.W.; Sedlak, F.R.  
Weightbearing following spaceflight results in disruption of red skeletal muscle structure (Abstract).  
*ASGSB Bulletin* 4(1): 76, 1990. (GWU 13388)
- Riley\*, D.A.; Slocum, G.R.  
Contraction-free, fume-fixed longitudinal sections of fresh frozen muscle.  
*Stain Technology* 63(2): 93-96, 1988. (GWU 10727)
- Riley\*, D.A.; Slocum, G.R.; Bain, J.L.W.; Sedlak, F.R.; Sowa, T.; Mellender, J.  
Rat hindlimb suspension: Soleus muscle histochemistry, electron microscopy and electromyography (Abstract).  
*ASGSB Bulletin* 3(1): 119, 1989. (GWU 14687)
- Riley\*, D.A.; Slocum, G.R.; Bain, J.L.W.; Sedlak, F.R.; Sowa, T.E.; Mellender, J.W.  
Rat hindlimb unloading: Soleus histochemistry, ultrastructure, and electromyography.  
*Journal of Applied Physiology* 69(1): 58-66, 1990. (GWU 13547)
- Roy, R.R.; Baldwin\*, K.M.; Martin, T.P.; Chimarusti, S.P.; Edgerton\*, V.R.  
Biochemical and physiological changes in overloaded rat fast- and slow-twitch ankle extensors.  
*Journal of Applied Physiology* 59(2): 639-646, 1985. (GWU 10298)
- Roy, R.R.; Baldwin\*, K.M.; Martin, T.P.; Chimarusti, S.P.; Edgerton\*, V.R.  
Morphologic, biochemical and physiological adaptations in functionally overloaded rat soleus and medial gastrocnemius muscles (Abstract).  
*Anatomical Record* 211(3): 165A, 1985. (GWU 12641)
- Roy, R.R.; Bello, M.A.; Bouissou, P.; Edgerton\*, V.R.  
Size and metabolic properties of fibers in rat fast-twitch muscles after hindlimb suspension.  
*Journal of Applied Physiology* 62(6): 2348-2357, 1987. (GWU 8165)
- Roy, R.R.; Bodine-Fowler, S.; Kim, J.; Haque, N.; de Leon, R.; de Leon, D.; Edgerton\*, V.R.  
Architectural and fiber type distribution considerations relative to repeated biopsies in rhesus monkey hindlimb muscles (Abstract).  
*Journal of Biomechanics* 22(10): 1076, 1989. (GWU 14647)

- Roy, R.R.; Hauschka, E.O.; Edgerton\*, V.R.  
Fiber size and succinate dehydrogenase activity in the rat soleus following hindlimb suspension and periodic mechanical loading (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 172-173. (GWU 9993)
- Roy, R.R.; Hutchison, D.L.; Hodgson, J.A.; Edgerton\*, V.R.  
EMG amplitude patterns in rat soleus muscle and medial gastrocnemius following seven days of hindlimb suspension.  
In: *Proceedings of the Tenth Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, New Orleans, LA, November 4-7, 1988, p. 1710-1711.
- Roy, R.R.; Jiang, B.; Marini, J.F.; Edgerton\*, V.R.  
Myosin ATPase activity of muscle fibers that express slow and fast myosin (Abstract).  
*Physiologist* 33(4): A122, 1990. (GWU 12166)
- Roy, R.R.; Marini, J.F.; Flores, V.; Edgerton\*, V.R.  
Mechanical and metabolic adaptations in rat fast muscle following seven days of functional overload (Abstract).  
*Physiologist* 30(4): 199, 1987. (GWU 10974)
- Roy, R.R.; Meadows, I.D.; Baldwin\*, K.M.; Edgerton\*, V.R.  
Functional significance of compensatory overloaded rat fast muscle.  
*Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 52(2): 473-478, 1982. (GWU 12655)
- Roy, R.R.; Pierotti, D.J.; Baldwin\*, K.M.; Edgerton\*, V.R.  
Effects of cyclical passive stretch in maintaining cat soleus mechanical properties (Abstract).  
*Society for Neuroscience Abstracts* 14: 948, 1988. (GWU 11071)
- Roy, R.R.; Sacks, R.D.; Baldwin\*, K.M.; Short, M.; Edgerton\*, V.R.  
Interrelationships of contraction time,  $V_{max}$ , and myosin ATPase after spinal transection.  
*Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 56(6): 1594-1601, 1984. (GWU 12653)
- Roy, R.R.; Unguez, G.A.; Pierotti, D.J.; Bodine-Fowler, S.; Edgerton\*, V.R.  
Mechanical properties of self-reinnervated cat tibialis anterior motor units (Abstract).  
*Society for Neuroscience Abstracts* 15: 66, 1989. (GWU 13661)
- Roy, R.R.; Wong, B.; Baldwin\*, K.M.; Edgerton, V.R.  
Fatigue properties of functionally overloaded rat muscle (Abstract).  
*Medicine and Science in Sports and Exercise* 13(2): 140, 1981. (GWU 1777)
- Schaerf, F.W.; Patz, T.; Max\*, S.R.  
Estrogen modulates neural control of muscle glucose 6-phosphate dehydrogenase.  
*Journal of Neurochemistry* 38(6): 1765-1767, 1982. (GWU 4381)
- Searle, G.L.; Gerend, P.L.; Feller\*, D.D.  
Gluconeogenesis from alanine in the fed dexamethasone treated rat (Abstract).  
*Federation Proceedings* 39(3): 1179, 1980. (GWU 992)
- Seider, M.J.; Kapp, R.; Chen, C.-P.; Booth\*, F.W.  
The effects of cutting or of stretching skeletal muscle *in vitro* on the rates of protein synthesis and degradation.  
*Biochemical Journal* 188(1): 247-254, 1980. (GWU 985)



- Seider, M.J.; Nicholson, W.F.; Booth\*, F.W.  
Insulin resistance for glucose metabolism in disused soleus muscle of mice.  
*American Journal of Physiology* 242(1): E12-E18, 1982. (GWU 2457)
- Shellock, F.; Fukunaga, T.; Mink, J.; Edgerton\*, V.R.  
Acute effects of resistance exercise on MRI of skeletal muscle: Concentric vs. eccentric contractions (Abstract).  
*Physiologist* 33(4): A122, 1990. (GWU 12167)
- Silver, B.B.; Arnaud\*, S.B.; Harris, B.A.; Vernikos-Danellis\*, J.  
Effects of simulated microgravity on intracellular ion concentrations in sublingual cells and skeletal muscle (Abstract).  
*Aviation, Space, and Environmental Medicine* 60(5): 482, 1989. (GWU 14331)
- Silver, G.; Etlinger\*, J.D.  
Regulation of myofibrillar accumulation in chick muscle cultures: Evidence for the involvement of calcium and lysosomes in non-uniform turnover of contractile proteins.  
*Journal of Cell Biology* 101(6): 2383-2391, 1985. (GWU 7343)
- Staron, R.S.; Malicky, E.S.; Falkel, J.E.; Hagerman, F.C.; Dudley\*, G.A.  
Effects of heavy resistance weight training on muscle fiber size and composition in females (Abstract).  
*Medicine and Science in Sports and Exercise* 21(2, Suppl.): S71, 1990. (GWU 13251)
- Staron, R.S.; Malicky, E.S.; Leonardi, M.J.; Falkel, J.E.; Hagerman, F.C.; Dudley\*, G.A.  
Muscle hypertrophy and fast fiber type conversions in heavy resistance-trained women.  
*European Journal of Applied Physiology* 60(1): 71-79, 1990. (GWU 13256)
- Steffen, J.M. (Musacchia, X.J. = P.I.)  
Blood glucose, serum insulin and tissue glycogen concentrations in the hypothermic rat (Abstract).  
*Federation Proceedings* 45(4): 535, 1986. (GWU 8067)
- Steffen, J.M. (Musacchia, X.J. = P.I.)  
Glucose, glycogen, and insulin responses in the hypothermic rat.  
*Cryobiology* 25: 94-101, 1988. (GWU 10754)
- Steffen, J.M.; Fell, R.D.; Musacchia\*, X.J.  
Altered carbohydrate metabolism in the whole body suspended rat (Abstract).  
*Physiologist* 28(4): 313, 1985. (GWU 7029)
- Steffen, J.M.; Fell, R.D.; Musacchia\*, X.J.  
Muscle atrophy in suspended adult rats: Comparison with juveniles and spaceflight (Abstract).  
*Federation Proceedings* 46(6): 1242, 1987. (GWU 10536)
- Steffen, J.M.; Fell, R.D.; Musacchia\*, X.J.  
Physiological responses during whole body suspension of adult rats.  
*Physiologist* 30(1, Suppl.): S94-S95, 1987. (GWU 8617)
- Steffen, J.M.; Musacchia\*, X.J.  
Disuse atrophy, plasma corticosterone, and muscle glucocorticoid receptor levels.  
*Aviation, Space, and Environmental Medicine* 58(10): 996-1000, 1987. (GWU 8657)
- Steffen, J.M.; Musacchia\*, X.J.  
Effect of seven days of spaceflight on hindlimb muscle protein, RNA and DNA in adult rats.  
*Physiologist* 28(6, Suppl.): S221-S222, 1985. (GWU 6890)
- Steffen, J.M.; Musacchia\*, X.J.  
Effect of seven days of spaceflight on hindlimb muscle protein, RNA and DNA in adult rats (Abstract).  
*Physiologist* 28(4): 379, 1985. (GWU 7007)

- Steffen, J.M.; Musacchia\*, X.J.  
Glucocorticoids and hypothermic induction and survival in the rat.  
*Cryobiology* 22(4): 385-391, 1985. (GWU 7833)
- Steffen, J.M.; Musacchia\*, X.J.  
Spaceflight effects on adult rat muscle protein, nucleic acids, and amino acids.  
*American Journal of Physiology* 251: R1059-R1063, 1986. (GWU 7992)
- Steffen, J.M.; Musacchia\*, X.J.  
Thymic involution in the suspended rat: Adrenal hypertrophy and glucocorticoid receptor content.  
*Aviation, Space, and Environmental Medicine* 57(2): 162-167, 1986. (GWU 8050)
- Steffen, J.M.; Ringel, L.M.; Geoghegan, T.E. (Musacchia, X.J. = P.I.)  
 $\alpha$ -Actin mRNA levels in soleus muscles from adult and juvenile suspended rats (Abstract).  
*ASGSB Bulletin* 2: 17, 1989. (GWU 10756)
- Steffen, J.M.; Robb, R.; Dombrowski, M.J.; Musacchia\*, X.J.; Mandel\*, A.D.; Sonnenfeld\*, G.  
A suspension model for hypokinetic/hypodynamic and antiorthostatic responses in the mouse.  
*Aviation, Space, and Environmental Medicine* 55(7): 612-616, 1984. (GWU 7852)
- Steffen, J.M.; Steffen, M.C.; Geoghegan, T.E.; Musacchia\*, X.J.; Milsom, W.K.; Burlington, R.F.  
Observations of skeletal muscle from a hibernator, *Spermophilus lateralis* (Abstract).  
*Physiologist* 31: A42, 1988. (GWU 10743)
- Steiger, P.; Block, J.E.; Friedlander, A.; Genant\*, H.K.  
Precise determination of paraspinal musculature by quantitative CT.  
*Journal of Computer Assisted Tomography* 12(4): 616-620, 1988. (GWU 10356)
- Stump, C.S.; Tipton\*, C.M.  
Influence of single-hindlimb weight bearing on muscle mass and citrate synthase activity during simulated weightlessness (Abstract).  
*FASEB Journal* 2(6): A1488, 1988. (GWU 9319)
- Stump, C.S.; Woodman, C.R.; Tipton\*, C.M.  
Exercise induced glycogen depletion in select rat hindlimb muscles after two weeks of hindlimb suspension (Abstract).  
*Medicine and Science in Sports and Exercise* 22(2): S52, 1990. (GWU 13245)
- Tesch, P.A.; Buchanan\*, P.; Dudley\*, G.A.  
An approach to counteracting long-term microgravity-induced muscle atrophy.  
*Physiologist* 33(1, Suppl.): S77-S79, 1990. (GWU 11702)
- Tesch, P.A.; Dudley\*, G.A.; Duvoisin, M.R.; Hather, B.M.; Harris, R.T.  
Force and EMG signal patterns during repeated bouts of concentric or eccentric muscle actions.  
*Acta Physiologica Scandinavica* 138: 263-271, 1990. (GWU 12250)
- Thomason, D.B.; Baldwin\*, K.M.; Herrick, R.E.  
Myosin isozyme distribution in rodent hindlimb skeletal muscle.  
*Journal of Applied Physiology* 60(6): 1923-1931, 1986. (GWU 12656)
- Thomason, D.B.; Biggs, R.B.; Booth\*, F.W.  
Protein metabolism and  $\beta$ -myosin heavy-chain mRNA in unweighted soleus muscle.  
*American Journal of Physiology* 257(26): R300-R305, 1989. (GWU 11549)
- Thomason, D.B.; Biggs, R.B.; Booth\*, F.W.  
Rapid protein synthesis decrease and transient protein degradation increase in atrophying soleus muscle (Abstract).  
*FASEB Journal* 2(4): A939, 1988. (GWU 9338)

- Thomason, D.B.; Booth\*, F.W.  
Atrophy of the soleus muscle by hindlimb unweighting.  
*Journal of Applied Physiology* 68(1): 1-12, 1990. (GWU 11701)
- Thomason, D.B.; Booth\*, F.W.  
Gene-transfer into adult rat skeletal muscle *in vivo*: Retroviral-mediated, stable expression of a bacterial gene (Abstract).  
*Journal of Cell Biology* 109(4, Part 2): 263A, 1989. (GWU 12698)
- Thomason, D.B.; Booth\*, F.W.  
Influence of performance on gene expression in skeletal muscle: Effects of forced inactivity.  
*Advances in Myochemistry* 2: 79-82, 1989. (GWU 11762)
- Thomason, D.B.; Booth\*, F.W.  
Rapid decrease in nascent protein elongation during skeletal muscle unweighting (Abstract).  
*FASEB Journal* 4(3): A542, 1990. (GWU 12251)
- Thomason, D.B.; Booth\*, F.W.  
Soleus muscle slow myosin heavy chain mRNA expression during hindlimb unweighting: Implications for translational control mechanisms (Abstract).  
*FASEB Journal* 3(4): A698, 1989. (GWU 9874)
- Thomason, D.B.; Booth\*, F.W.  
Stable incorporation of a bacterial gene into adult rat skeletal muscle *in vivo*.  
*American Journal of Physiology* 258: C578-C581, 1990. (GWU 12697)
- Thomason, D.B.; Herrick, R.E.; Baldwin\*, K.M.  
Activity induced recovery of slow myosin expression following rodent hindlimb suspension (Abstract).  
*Medicine and Science in Sports and Exercise* 18(2, Suppl.): S5, 1986. (GWU 12647)
- Thomason, D.B.; Herrick, R.E.; Baldwin\*, K.M.  
Activity influences on soleus muscle myosin during rodent hindlimb suspension.  
*Journal of Applied Physiology* 63(1): 138-144, 1987. (GWU 8130)
- Thomason, D.B.; Herrick, R.E.; Baldwin\*, K.M.  
Influence of activity patterns on muscle mass and myosin isozymes in rodent skeletal muscle (Abstract).  
*Federation Proceedings* 44(5): 1374, 1985. (GWU 8073)
- Thomason, D.B.; Herrick, R.E.; Baldwin\*, K.M.  
Myosin isozyme patterns in normal and overloaded skeletal muscles (Abstract).  
*Medicine and Science in Sports and Exercise* 16(2): 120, 1984. (GWU 12649)
- Thomason, D.B.; Herrick, R.E.; Surdyka, D.; Baldwin\*, K.M.  
Time course of soleus muscle myosin expression during hindlimb suspension and recovery.  
*Journal of Applied Physiology* 63(1): 130-137, 1987. (GWU 8129)
- Thomason, D.B.; Herrick, R.E.; Surdyka, D.; Baldwin\*, K.M.  
Time course of soleus muscle myosin expression during hindlimb suspension and recovery (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 57. (GWU 9956)
- Thomason, D.B.; Tsika, R.W.; Baldwin\*, K.M.  
Differential control of the expression of slow and fast myosin isoenzymes in adult rodent skeletal muscle (Abstract).  
*Journal of Cellular Biochemistry Suppl.* 9B: 54, 1985. (GWU 13392)

Thornton\*, W.

Work, exercise and space flight. I. Operations, environment, and effects of spaceflight.

In: *Workshop on Exercise Prescription for Long-Duration Space Flight* (Harris, B.A., Jr., Stewart, D.F., Eds.). Houston, TX: NASA, Johnson Space Center, p. 23-30, 1989. (NASA-CP-3051) (GWU 10722)

Thornton\*, W.

Work, exercise and space flight. II. Modification of adaptation by exercise (exercise prescription).

In: *Workshop on Exercise Prescription for Long-Duration Space Flight* (Harris, B.A., Jr., Stewart, D.F., Eds.). Houston, TX: NASA, Johnson Space Center, p. 107-115, 1989. (NASA-CP-3051) (GWU 12004)

Thornton\*, W.

Work, exercise and space flight. III. Exercise devices and protocols.

In: *Workshop on Exercise Prescription for Long-Duration Space Flight* (Harris, B.A., Jr., Stewart, D.F., Eds.). Houston, TX: NASA, Johnson Space Center, p. 31-42, 1989. (NASA-CP-3051) (GWU 10758)

Toop, J.; Max\*, S.R.

Testosterone enhances [ $^{14}\text{C}$ ] 2-deoxyglucose uptake by rat levator ani muscles in vivo (Abstract).

*Society for Neuroscience Abstracts* 7: 554, 1981. (GWU 2352)

Toyoshima, E.; Mayer, R.F.; Max\*, S.R.; Eccles, C.

2,4-Dichlorophenoxyacetic acid (2,4-D) does not cause polyneuropathy in the rat.

*Journal of Neurological Sciences* 70: 225-229, 1985. (GWU 7983)

Troup, J.P.; Fitts\*, R.H.

Membrane properties of skeletal muscle fiber types following hindlimb immobilization (Abstract).

*Federation Proceedings* 41: 1595, 1982. (GWU 4064)

Troup, J.P.; Witzmann, F.A.; Fitts\*, R.H.

The effect of hindlimb immobilization on skeletal muscle acid hydrolase activity (Abstract).

*Medicine and Science in Sports and Exercise* 13(2): 86, 1981. (GWU 2381)

Tseng, B.S.; Kasper, C.E.; Edgerton\*, V.R.

Nuclear density in isolated single rat skeletal muscle fibers with respect to fiber type (Abstract).

*Biophysical Journal* 57(2): 551a, 1990. (GWU 12849)

Tsika, R.W.; Herrick, R.E.; Baldwin\*, K.M.

Effect of anabolic steroids and hindlimb suspension on functionally overloaded skeletal muscle (Abstract).

*Federation Proceedings* 44(5): 1373, 1985. (GWU 7354)

Tsika, R.W.; Herrick, R.E.; Baldwin\*, K.M.

Effect of anabolic steroids on overloaded and overloaded suspended skeletal muscle.

*Journal of Applied Physiology* 63(5): 2128-2133, 1987. (GWU 11650)

Tsika, R.W.; Herrick, R.E.; Baldwin\*, K.M.

Effect of anabolic steroids on skeletal muscle mass during hindlimb suspension.

*Journal of Applied Physiology* 63(5): 2122-2127, 1987. (GWU 11649)

Tsika, R.W.; Herrick, R.E.; Baldwin\*, K.M.

Interaction of compensatory overload and hindlimb suspension on myosin isoform expression.

*Journal of Applied Physiology* 62(6): 2180-2186, 1987. (GWU 8954)

Tsika, R.W.; Herrick, R.E.; Baldwin\*, K.M.

Subunit composition of rodent isomyosins and their distribution in hindlimb skeletal muscles.

*Journal of Applied Physiology* 63(5): 2101-2110, 1987. (GWU 11651)

Tsika, R.W.; Herrick, R.E.; Baldwin\*, K.M.

Time course adaptations in rat skeletal muscle isomyosins during compensatory growth and regression.

*Journal of Applied Physiology* 63(5): 2111-2121, 1987. (GWU 8526)

- Tsika, R.W.; Herrick, R.E.; Baldwin\*, K.M.  
Time course adaptations in rodent skeletal muscle myosin isoforms in response to compensatory overload (Abstract).  
*Medicine and Science in Sports and Exercise* 18(2, Suppl.): S66, 1986. (GWU 12648)
- Tucker, K.R.; Seider, M.J.; Booth\*, F.W.  
Protein synthesis rates in atrophied gastrocnemius muscles after limb immobilization.  
*Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 51(1): 73-77, 1981. (GWU 1587)
- Tufariello, J.; DuBois, D.C.; Almon\*, R.R.  
Muscle and thymus cell-free glucocorticoid receptor systems are different.  
*Journal of Receptor Research* 6(5&6): 411-424, 1986. (GWU 7867)
- Unguez, G.A.; Bodine-Fowler, S.; Pierotti, D.J.; Roy, R.R.; Edgerton\*, V.R.  
Metabolic variability of muscle fibers in self-reinnervated motor units in the cat tibialis anterior muscle (Abstract).  
*Society for Neuroscience Abstracts* 16(1): 329, 1990. (GWU 14120)
- Unguez, G.A.; Bodine-Fowler, S.; Roy, R.R.; Pierotti, D.J.; Edgerton\*, V.R.  
Spatial distribution of motor unit fibers in the self-reinnervated tibialis anterior muscle of adult cats (Abstract).  
*Society for Neuroscience Abstracts* 15: 66, 1989. (GWU 13660)
- Unsworth, B.R.; Witzmann, F.A.; Fitts\*, R.H.  
A comparison of rat myosin from fast and slow skeletal muscle and the effect of disuse.  
*Journal of Biological Chemistry* 257(24): 15129-15136, 1982. (GWU 3845)
- Vailas\*, A.; Zernicke, R.; Grindeland\*, R.; Kaplansky, A.  
Experiment K-6-02: Biomedical, biochemical and morphological alterations of muscle and dense, fibrous connective tissues during 14 days of spaceflight.  
In: *Final Reports of the U.S. Experiments Flown on the Soviet Biosatellite Cosmos 1887* (Connolly, J.P., Grindeland, R.E., Ballard, R.W., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 85-112, 1990. (NASA-TM-102254) (GWU 13121)
- van der Westhuyzen, D.R.; Matsumoto, K.; Etlinger\*, J.D.  
Easily releasable myofilaments from skeletal and cardiac muscles maintained *in vitro*.  
*Journal of Biological Chemistry* 256(22): 11791-11797, 1981. (GWU 8739)
- Vandenburgh\*, H.H.  
A computerized model system for studying the effects of mechanical activity on cell growth *in vitro* (Abstract).  
*In Vitro: Cellular & Developmental Biology* 23(3, Part 2): 24A, 1987. (GWU 8810)
- Vandenburgh\*, H.H.  
Simulating exercise in a tissue culture model system: Studies on how tension alters skeletal muscle growth (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 175-176. (GWU 10002)
- Vandenburgh\*, H.H.; Hatfaludy, S.; Karlisch, P.; Shansky, J.  
Skeletal muscle growth is stimulated by intermittent stretch-relaxation in tissue culture.  
*American Journal of Physiology* 256(3): C674-C682, 1989. (GWU 11217)
- Vandenburgh\*, H.H.; Hatfaludy, S.; Shansky, J.  
Protein degradation and prostaglandin E<sub>2</sub> efflux in stretch-induced skeletal muscle growth *in vitro* (Abstract).  
*FASEB Journal* 3(4): A340, 1989. (GWU 9860)

- Vandenburgh\*, H.H.; Karlisch, P.  
Longitudinal growth of muscle fibers *in vitro* induced by mechanical activity (Abstract).  
*Journal of Cellular Biochemistry* 12C: 360, 1988. (GWU 9829)
- Vandenburgh\*, H.H.; Karlisch, P.; Farr, L.  
Maintenance of highly contractile tissue-cultured avian skeletal myotubes in collagen gel (Abstract).  
*In Vitro: Cellular & Development Biology* 23(3, Part 2): 24A, 1987. (GWU 8170)
- Vandenburgh\*, H.H.; Karlisch, P.; Farr, L.  
Maintenance of highly contractile tissue-cultured avian skeletal myotubes in collagen gel.  
*In Vitro: Cellular & Developmental Biology* 24(3, Part 1): 166-174, 1988. (GWU 9830)
- Warrenski, J.; Almon\*, R.R.  
Effect of castration on the metabolism of androgens in rat skeletal muscle.  
*Analytical Biochemistry* 15(9): 1149-1153, 1983. (GWU 9540)
- Watson, P.A.; Stein, J.P.; Booth\*, F.W.  
Changes in actin synthesis and  $\alpha$ -actin-mRNA content in rat muscle during immobilization.  
*American Journal of Physiology* 247: C39-C44, 1984. (GWU 6007)
- Weitman, D.; Etlinger\*, J.D.  
Comparison of active and latent proteasome from human erythrocytes (Abstract).  
*FASEB Journal* 4(7): A2157, 1990. (GWU 14079)
- West, S.P.; Roy, R.R.; Edgerton\*, V.R.  
Fiber type and fiber size of cat ankle, knee, and hip extensors and flexors following low thoracic spinal cord transection at an early age.  
*Experimental Neurology* 91: 174-182, 1986. (GWU 12044)
- Whalen\*, R.  
Influence of loading history on muscle fiber cross-sectional area.  
In: *Proceedings, 14th Annual Meeting, American Society of Biomechanics*, Miami, FL, November 14-16, 1990, p. 121-122. (GWU 13234)
- Winder, W.; Fitts\*, R.; Holloszy, J.; Kaiser, K.; Brooke, M.  
Effects of thyroid hormones on different types of skeletal muscle.  
In: *Plasticity of Muscle* (Pette, D., Ed.). New York: Walter de Gruyter, p. 581-591, 1980. (GWU 4443)
- Winiarski, A.M.; Roy, R.R.; Alford, E.K.; Chiang, P.; Edgerton\*, V.R.  
Hindlimb suspension effects on mechanical properties of rat skeletal muscle (Abstract).  
*Physiologist* 28(4): 316, 1985. (GWU 7301)
- Winiarski, A.M.; Roy, R.R.; Alford, E.K.; Chiang, P.C.; Edgerton\*, V.R.  
Mechanical properties of rat skeletal muscle after hind limb suspension.  
*Experimental Neurology* 96: 650-660, 1987. (GWU 9658)
- Witzmann, F.A.; Kim, D.H.; Fitts\*, R.H.  
The effect of hindlimb immobilization on the contractile properties of fast and slow skeletal muscle (Abstract).  
*Medicine and Science in Sports and Exercise* 12(2): 91, 1980. (GWU 641)
- Witzmann, F.A.; Kim, D.H.; Fitts\*, R.H.  
Effect of hindlimb immobilization on the fatigability of skeletal muscle.  
*Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 54(5): 1242-1248, 1983. (GWU 4716)

- Witzmann, F.A.; Kim, D.H.; Fitts\*, R.H.  
Hindlimb immobilization: Length-tension and contractile properties of skeletal muscle.  
*Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 53(2): 335-345, 1982. (GWU 3573)
- Witzmann, F.A.; Kim, D.H.; Fitts\*, R.H.  
Recovery of fast and slow skeletal muscle from disuse (Abstract).  
*Medicine and Science in Sports and Exercise* 13(2): 82, 1981. (GWU 2383)
- Witzmann, F.A.; Kim, D.H.; Fitts\*, R.H.  
Recovery time course in contractile function of fast and slow skeletal muscle after hindlimb immobilization.  
*Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 52: 677-682, 1982. (GWU 3829)
- Witzmann, F.A.; Troup, J.P.; Fitts\*, R.H.  
Acid phosphatase and protease activities in immobilized rat skeletal muscles.  
*Canadian Journal of Physiology and Pharmacology* 60: 1732- 1736, 1982. (GWU 4681)
- Wong, T.S.; Booth\*, F.W.  
Increased protein synthesis rates and mRNA levels in resistance trained rat skeletal muscle (Abstract).  
*FASEB Journal* 3(4): A698, 1989. (GWU 9873)
- Wong, T.S.; Booth\*, F.W.  
Protein metabolism in rat tibialis anterior muscle after stimulated chronic eccentric exercise.  
*Journal of Applied Physiology* 69(5): 1718-1724, 1990. (GWU 7991)
- Wong, T.S.; Booth\*, F.W.  
Skeletal muscle enlargement with weight-lifting exercise by rats.  
*Journal of Applied Physiology* 65(2): 950-954, 1988. (GWU 7440)
- Yeagle, S.P.; Mayer, R.F.; Max\*, S.R.  
Contractile properties of rat fast-twitch skeletal muscle during reinnervation: Effects of testosterone and castration.  
*Experimental Neurology* 82: 344-357, 1983. (GWU 5569)
- Yip, R.K.; Riley\*, D.A.  
Effects of methylmercury on the motor and sensory innervation of the rat extensor digitorum longus muscle.  
*Environmental Research* 43(1): 85-96, 1987. (GWU 8137)
- Zeman, R.J.; Barakat, R.; Bernstein, P.L.; Ludemann, R.; Etlinger\*, J.D.  
Calcium regulation of lysosomal proteolysis in skeletal muscle.  
*Annals of the New York Academy of Sciences* 463: 247-249, 1986. (GWU 7743)
- Zeman, R.J.; Bernstein, P.L.; Etlinger\*, J.D.  
Regulation of atrophy and twitch kinetics in rat soleus muscles in organ culture (Abstract).  
*Federation Proceedings* 42(4): 994, 1983. (GWU 4695)
- Zeman, R.J.; Bernstein, P.L.; Ludemann, R.; Etlinger\*, J.D.  
Regulation of  $\text{Ca}^{2+}$ -dependent protein turnover in skeletal muscle by thyroxine.  
*Biochemical Journal* 240: 269-272, 1986. (GWU 7464)
- Zeman, R.J.; Kameyama, T.; Matsumoto, K.; Bernstein, P.; Etlinger\*, J.D.  
Regulation of protein degradation in muscle by calcium: Evidence for enhanced nonlysosomal proteolysis associated with elevated cytosolic calcium.  
*Journal of Biological Chemistry* 260(25): 13619-13624, 1985. (GWU 7342)

- Zeman, R.J.; Ludemann, R.; Easton, T.G.; Etlinger\*, J.D.  
Slow to fast alterations in skeletal muscle fibers caused by clenbuterol, a  $\beta_2$ -receptor agonist.  
*American Journal of Physiology* 254: E726-E732, 1988. (GWU 7889)
- Zeman, R.J.; Ludemann, R.; Etlinger\*, J.D.  
Clenbuterol, a  $\beta_2$ -agonist, retards atrophy in denervated muscles.  
*American Journal of Physiology* 252: E152-E155, 1987. (GWU 10305)
- Zeman, R.J.; Ludemann, R.; Silver, G.; Etlinger\*, J.D.  
Clenbuterol, a  $\beta_2$ -receptor agonist, retards denervation atrophy of slow skeletal muscle (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 135-137. (GWU 9931)
- Zeman, R.J.; Ludemann, R.; Silver, G.; Etlinger\*, J.D.  
Slow to fast alterations in skeletal muscle caused by clenbuterol, a  $\beta_2$ -receptor agonist (Abstract).  
*Federation Proceedings* 46: 638, 1987. (GWU 11106)



## **GENERAL MUSCULOSKELETAL**



Altchuler\*, S.I.

Musculoskeletal changes during extended duration spaceflight (Abstract).

In: *Proceedings of the 34th Annual Conference on Engineering in Medicine and Biology*, Houston, TX, September 21-23, 1981. Bethesda, MD: The Alliance for Engineering in Medicine and Biology, p. 232, 1981. (GWU 5362)

Buchanan\*, P.

Bone and muscle: The structural system in long duration space missions.

In: *Aerospace Science* (Yajima, K., Ed.). Tokyo, Japan: Nihon University, p. 85-93, 1988. (GWU 10567)

LeBlanc\*, A.

Bone and muscle loss during space flight.

Abstract of a paper presented at the 35th Annual Meeting of the Southwest Chapter Society of Nuclear Medicine, Houston, TX, April 6-8, 1990.

LeBlanc\*, A.; Marsh, C.; Evans, H.; Johnson\*, P.; Schneider\*, V.; Jhingran, S.

Bone and muscle atrophy with suspension of the rat.

*Journal of Applied Physiology* 58(5): 1669-1675, 1985. (GWU 7170)

Malluche, H.H.; Okamoto, S.; DeLuca\*, H.F.; Faugere, M.C.

Bone loss of estrogen deficiency results from osteoblastic dysfunction: A defect reversed by 1,25(OH)<sub>2</sub> vitamin D<sub>3</sub> (Abstract).

*Physiologist* 27(4): 253, 1984. (GWU 7871)

Mohler\*, S.R.

Bone and muscle maintenance in long-term space flight, with commentary on the aging process.

In: *Working in Orbit and Beyond: The Challenges for Space Medicine* (Lorr, D.B., Garshnek, V., Cadoux, C., Eds.). San Diego, CA: Univelt, Inc., p. 29-36, 1989. (GWU 11256)

Parazynski, S.E.; Schwandt, D.F.; Whalen, R.T.; Aratow, M.; Hargens\*, A.R.

Development of an exercise device to prevent musculoskeletal deconditioning during human spaceflight (Abstract).

*Clinical Research* 37(1): 220A, 1989. (GWU 7315)

Rambaut\*, P.C.

The effects of prolonged bedrest on bone and muscle.

In: *A Critical Review of the U.S. and International Research on Effects of Bedrest on Major Body Systems* (Nicogossian, A.E., Lewis, C.S., Eds.). Washington, DC: Biotechnology, Inc., p. 105-117, 1982. (GWU 3690)

Schneider\*, V.; LeBlanc\*, A.; Cintron\*, N.

Long duration space missions, the lunar base and beyond: Musculoskeletal systems (Abstract).

*Aviation, Space, and Environmental Medicine* 61(5): 476, 1990. (GWU 13172)

Schneider\*, V.S.; LeBlanc\*, A.

Opportunities for biological research on Space Station: The musculoskeletal systems (Abstract).

*Physiologist* 28(4): 371, 1985. (GWU 7353)

Shaw, S.R.; Zernicke, R.F.; Vailas\*, A.C.; DeLuna, D.; Thomason, D.B.; Baldwin\*, K.M.

Mechanical, morphological and biochemical adaptations of bone and muscle to hindlimb suspension and exercise.

*Journal of Biomechanics* 20(3): 225-234, 1987. (GWU 11176)

Whalen\*, R.

Responses of muscle and bone to loading histories.

Paper presented at a workshop on the Effects of Space Travel on the Musculoskeletal System, Bethesda, MD, October 3-4, 1990, 4 p. (GWU 13546)

Whalen\*, R.T.; Carter, D.R.; Steele, C.R.

Analysis of U.S. and Soviet efforts to maintain muscle and bone mass with exercise during prolonged bedrest and spaceflight.

In: *Congress Proceedings, XII International Congress of Biomechanics*, Los Angeles, CA, June 26-30, 1989, Abstract # 143. (GWU 13235)

Wilmore\*, J.H.

Bone and muscle.

In: *Spaceflight Deconditioning and Physical Fitness* (Parker, J.F., Jr., Lewis, C.S., Christensen, D.G., Eds.). Falls Church, VA: Biotechnology, Inc., p. 129-134, 1981. (GWU 2835)

Woodard, D.; Dudley\*, G.A.; Buchanan\*, P.

Maximal resistance exercise increases bone density and muscle cross-sectional area (Abstract).

*Aviation, Space, and Environmental Medicine* 61(5): 502, 1990. (GWU 13194)

## **GENERAL PHYSIOLOGY REFERENCES**



Ahn, C.-H.  
*NASA's Biomedical Research Program*. Washington, DC: NASA Headquarters, 221 p., 1981. (NASA SP-452) (GWU 1797)

Arnaud\*, S.; Berry, P.; Cohen\*, M.; Danellis\*, J.; DeRoshia\*, C.; Greenleaf\*, J.; Harris, B.; Keil\*, L.; Bernauer, E.; Bond, M.; Ellis\*, S.; Lee, P.; Selzer\*, R.; Wade, C.  
Exercise countermeasures for bed rest deconditioning (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 59-60. (GWU 9951)

Bagian\*, J.P.; Kaufman, J.W.  
Effectiveness of the Space Shuttle anti-exposure system in a cold water environment.  
*Aviation, Space, and Environmental Medicine* 61: 753-757, 1990. (GWU 11716)

Bagian\*, J.P.; Nagel, S.R.  
Shuttle emergency egress development program (Abstract).  
*Aviation, Space, and Environmental Medicine* 61(5): 455, 1990. (GWU 13155)

Bagian\*, J.P.; Schafer, L.E.; Probe, J.D.; Greenisen\*, M.C.; Krutz, R.W., Jr.  
Reach performance while wearing the Space Shuttle Launch and Entry Suit during exposure to launch accelerations.  
Paper presented at the 20th Intersociety Conference on Environmental Systems, Williamsburg, VA, July 9-12, 1990, 5 p. (SAE Paper 901357) (GWU 14256)

Beers, K.N.; Mohler\*, S.R.  
Lyme Disease and aircrew health (Abstract).  
*Aviation, Space, and Environmental Medicine* 61(5): 452, 1990. (GWU 13153)

BioTechnology, Inc.  
*Biomedical Research*. Washington, DC: NASA Headquarters, 19 p., 1981. (NASA-CR-3487) (GWU 2847)

Bolcik, C.; Pleasant, L.G. (Waters, E. = P.I.)  
*Biomedical Research Publications: 1982-1983*. Washington, DC: NASA Headquarters, 52 p., 1983. (NASA-CR-3739) (GWU 5051)

Bowman\*, G.H.  
Research Animal Holding Facility for Spacelab (Abstract).  
In: *Space-Environment Workshop for Life Scientists*. Washington, DC: NASA Headquarters, p. 42-43, 1980. (GWU 5093)

Buderer\*, M.C.; Salinas\*, G.A.  
Life sciences experiments on Spacelab 1.  
Paper presented at the Intersociety Conference on Environmental Systems, San Diego, CA, July 14-17, 1980, 4 p. (ASME Paper 80-ENAS-36) (GWU 3388)

Bungo\*, M.W.  
Comments.  
In: *Workshop on Exercise Prescription for Long-Duration Space Flight* (Harris, B.A., Jr., Stewart, D.F., Eds.). Houston, TX: NASA, Johnson Space Center, p. 71, 1989. (NASA-CP-3051) (GWU 8472)

Bungo\*, M.W.  
Inflight medical observations.  
In: *STS-3 Medical Report* (Pool, S.L., Johnson, P.C., Jr., Mason, J.A., Eds.). Houston, TX: NASA, Johnson Space Center, p. 3-4, 1982. (NASA-TM-58247) (GWU 4672)

Bungo\*, M.W.  
Inflight observations.  
In: *STS-2 Medical Report* (Pool, S.L., Johnson, P.C., Jr., Mason, J.A., Eds.). Houston, TX: NASA, Johnson Space Center, p. 3-4, 1982. (NASA-TM-58245) (GWU 3627)

Bungo\*, M.W.; Bagian\*, T.M.; Bowman, M.A.; Levitan, B.M.  
*Results of the Life Sciences DSOs Conducted Aboard the Space Shuttle 1981-1986*. Houston, TX: NASA, Johnson Space Center, 210 p., 1987. (GWU 8474)

Bungo\*, M.W.; Charles, J.B.  
Maintaining health through conditioning and countermeasures.  
In: *Space Station Medical Sciences Concepts* (Mason, J.A., Johnson, P.C., Jr., Eds.). Houston, TX: NASA, Johnson Space Center, p. 27-29, 1984. (NASA-TM-58255) (GWU 6141)

Callahan\*, P.X.; Grindeland\*, R.; Funk, G.; Lencki, W.  
Results from the SL-3 Ames Research Center Life Sciences Payload: A spaceflight of 24 rats and 2 monkeys (Abstract).  
In: *Space Life Sciences Symposium: Three Decades of Life Science Research in Space*, Washington, DC, June 21-26, 1987, p. 43-44. (GWU 9965)

Callahan\*, P.X.; Schatte, C.; Grindeland\*, R.E.; Bowman, G.; Berry, W.E.; Lencki, W.A.; Funk, G.A.  
Ames Research Center Life Sciences Payload: Overview of results of spaceflight of 24 rats and 2 monkeys (Abstract).  
In: *Abstracts, Twenty-Sixth Plenary Meeting of the Committee on Space Research*, Toulouse, France, June 30-July 11, 1986, p. 302. (GWU 7836)

Callahan\*, P.X.; Tremor, J.; Lund, G.; Wagner, W.L.  
Ames Research Center Life Sciences Payload Project for Spacelab Mission 3.  
Paper presented at the 13th Intersociety Conference on Environmental Systems, San Francisco, CA, July 11-13, 1983, 10 p. (SAE Paper 831094) (GWU 5887)

Callahan\*, P.X.; Tremor, J.W.  
Research Animal Holding Facility: Verification Test (RAHF-VT).  
In: *Spacelab Mission 3 Experimental Descriptions* (Hill, C.K., Ed.). Huntsville, AL: NASA, Marshall Space Flight Center, p. 21-24, 1982. (NASA-TM-82502) (GWU 4350)

Clifton, K.S. (Ed.)  
*Spacelab Mission 2: Experimental Descriptions*. Huntsville, AL: NASA, Marshall Space Flight Center, 64 p., 1982. (NASA-TM-82477) (GWU 5201)

Cohen\*, M.M.  
Artificial gravity for long duration spaceflight.  
In: *The Case for Mars III* (Stoker, C., Ed.). San Diego, CA: American Astronautical Society, p. 171-178, 1989. (GWU 13598)

Cohen\*, M.M.  
Physiological and behavioral adaptations to microgravity: A major role for Space Station Freedom.  
*Aeromedical & Training Digest* 4(2): 1-3, 1990. (GWU 13604)

Connolly, J.P.; Grindeland\*, R.E.; Ballard, R.W. (Eds.)  
*Final Reports of the U.S. Experiments Flown on the Soviet Biosatellite Cosmos 1887*. Moffett Field, CA: NASA, Ames Research Center, 529 p., 1990. (NASA-TM-102254) (GWU 11764)

Convertino\*, V.A.  
Physiological adaptations to weightlessness: Effects on exercise and work performance.  
*Exercise Sports and Science Reviews* 18: 119-166, 1990. (GWU 13956)

Cramer\*, D.B.  
Looking ahead: The Shuttle and life sciences (Abstract).  
In: *Proceedings of the 34th Annual Conference on Engineering in Medicine and Biology*, Houston, TX, September 21-23, 1981. Bethesda, MD: The Alliance for Engineering in Medicine and Biology, p. 234, 1981. (GWU 5364)



Cramer\*, D.R.; Reid, D.H.; Klein\*, H.P.  
The first dedicated life sciences mission: Spacelab 4.  
*Advances in Space Research* 3(9): 143-151, 1983. (GWU 5555)

Danellis\*, J.  
Comments.  
In: *Workshop on Exercise Prescription for Long-Duration Space Flight* (Harris, B.A., Jr., Stewart, D.F., Eds.).  
Houston, TX: NASA, Johnson Space Center, p. 95-96, 1989. (NASA-CP-3051) (GWU 8125)

Davis, J.R.; Nicogossian\*, A.E.  
Biomedical training of space crews.  
In: *Space Physiology and Medicine*, 2nd Edition (Nicogossian, A.E., Huntoon, C.L., Pool, S.L., Eds.).  
Philadelphia, PA: Lea & Febiger, p. 273-282, 1989. (GWU 14325)

Degioanni\*, J.C.; Logan\*, J.S.; Reynolds, M.A.  
Medical care.  
In: *Space Station Medical Sciences Concepts* (Mason, J.A., Johnson, P.C., Jr., Eds.). Houston, TX: NASA,  
Johnson Space Center, p. 19-21, 1984. (NASA-TM-58255) (GWU 6146)

Dietlein\*, L.F.  
U.S. manned spaceflight: The first twenty years (Abstract).  
In: *Proceedings of the 34th Annual Conference on Engineering in Medicine and Biology*, Houston, TX, September  
21-23, 1981. Bethesda, MD: The Alliance for Engineering in Medicine and Biology, p. 227, 1981. (GWU 5365)

Dietlein\*, L.F.; Johnston, R.S.  
U.S. manned space flight: The first twenty years. A biomedical status report.  
*Acta Astronautica* 8(9-10): 893-906, 1981. (GWU 3344)

Dietlein\*, L.F.; Rambaut\*, P.C.; Nicogossian\*, A.  
Future thrusts in life sciences experimentation in space. (Russian)  
*Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina* 18(1): 8-14, 1984. (GWU 6359)

Dietlein\*, L.F.; Rambaut\*, P.C.; Nicogossian\*, A.E.  
Future thrusts in life sciences experimentation in space.  
*Aviation, Space, and Environmental Medicine* 54(12): S6-S8, 1983. (GWU 5180)

Dudley\*, G.A.; Tesch, P.A.  
Living in space: A struggle against microgravity.  
*Saab-Scania Griffin* 4: 46-52, 1990. (GWU 14156)

Fabricant\*, J.D.  
Life sciences experiments for a space platform/station.  
Paper presented at the 12th Intersociety Conference on Environmental Systems, San Diego, CA, July 19-21, 1982,  
11 p. (SAE Paper 82-0834) (GWU 4853)

Fast, T.; Grindeland\*, R.; Kraft\*, L.; Ruder, M.; Vasques, M.; Lundgren, P.; Scibetta, S.; Tremor, J.; Buckendahl,  
P.; Keil\*, L.; Chee, O.; Reilly, T.; Dalton, B.; Callahan\*, P.  
Rat maintenance in the Research Animal Holding Facility during the flight of Space Lab 3.  
*Physiologist* 28(6, Suppl.): S187-S188, 1985. (GWU 6605)

Fast, T.; Grindeland\*, R.; Ruder, M.; Vasques, M.; Lundgren, P.; Scibetta, S.; Tremor, J.; Buckendahl, P.; Keil\*,  
L.; Chee, O.; Reilly, T.; Dalton, B.; Callahan\*, P.  
Rat maintenance in the Research Animal Holding Facility during the flight of Spacelab 3 (Abstract).  
*Physiologist* 28(4): 375, 1985. (GWU 7112)

Feddersen, W.E.

NASA Principal Investigators interfaces flight opportunities/advanced missions (Abstract).

In: *Space-Environment Workshop for Life Scientists*. Washington, DC: NASA Headquarters, p. 38-39, 1980. (GWU 4944)

Feller\*, D.D.

Effects of hypergravity on rat liver regeneration.

In: *Space Gerontology* (Miquel, J., Economos, A.C., Eds.). Washington, DC: NASA Headquarters, p. 53-54, 1982. (NASA-CP-2248) (GWU 4052)

Furukawa\*, S.

*Life Sciences Considerations for Long Duration Manned Space Missions, Vol. 1: Medical Operations*. Kennedy Space Center, FL: NASA, Kennedy Space Center, 1984. (NASA-TM-83093) (GWU 5666)

Goebel\*, L.A.

General Purpose Work Station for life sciences Spacelab (Abstract).

In: *Space-Environment Workshop for Life Scientists*. Washington, DC: NASA Headquarters, p. 28-29, 1980. (GWU 5007)

Greenleaf\*, J. (Ed.)

*Exercise Countermeasures for Bed Rest Deconditioning*. Moffett Field, CA: NASA, Ames Research Center, 62 p., 1989. (NASA-TM-101045) (GWU 13113)

Greenleaf\*, J.E.

Physiology of prolonged bed rest.

In: *Angiologie* (Boccalon, H., Ed.). Paris: John Libbey Eurotext, p. 665-671, 1988. (GWU 9618)

Greenleaf\*, J.E.

*Physiology of Prolonged Bed Rest*. Moffett Field, CA: NASA, Ames Research Center, 9 p., 1988. (NASA-TM-101010) (GWU 10675)

Greenleaf\*, J.E.; Bulbulian, R.; Bernauer, E.M.; Haskell, W.L.; Moore, T.

Exercise-training protocols for astronauts in microgravity.

*Journal of Applied Physiology* 67(6): 2191-2204, 1989. (GWU 11203)

Greenleaf\*, J.E.; Silverstein, L.; Bliss, J.; Langenheim, V.; Rossow, H.; Chao, C.

*Physiological Responses to Prolonged Bed Rest and Fluid Immersion in Man: A Compendium of Research*

(1974-1980). Moffett Field, CA: NASA, Ames Research Center, 115 p., 1982. (NASA-TM-81324) (GWU 2591)

Grindeland\*, R.E.

Cosmos 1887: Science overview.

*FASEB Journal* 4: 10-15, 1990. (GWU 10975)

Grindeland\*, R.E.; Lundgren, P.R.; Vasques, M.; Fast, T.N.; Buckendahl, P.; Callahan\*, P.X.

Body composition of rats of two sizes after 7 days exposure to microgravity (Abstract).

*Federation Proceedings* 46: 1242, 1987. (GWU 11123)

Guy\*, H.J.

Bioengineering in space flight (Abstract).

*Annals of Biomedical Engineering* 10: 31, 1983. (GWU 8419)

Hargens\*, A.R.; Vernikos-Danellis\*, J.

Life Science research at NASA-Ames Research Center (Abstract).

Abstract of paper presented at TABES 89, 5th Annual Technical and Business Exhibition and Symposium, Huntsville, AL, May 16-17, 1989, 1 p. (GWU 7734)

- Haymann-Haber, G.; Colombano, S.P.; Groleau, N.; Rosenthal, D.; Szolovits, P.; Young\*, L.R.  
An expert system to advise astronauts during experiments: The Protocol Manager module.  
In: *Third Annual Workshop on Space Operations Automation and Robotics (SOAR '89)* (Griffin, S., Ed.).  
Houston, TX: NASA, Johnson Space Center, p. 187-194, 1990. (NASA-CP-3059) (GWU 12470)
- Heinrich, M.R.; Souza\*, K.A. (Eds.)  
*Final Reports of U.S. Rat Experiments Flown on the Soviet Satellite Cosmos 1129*. Moffett Field, CA: NASA, Ames Research Center, 442 p., 1981. (NASA-TM-81289) (GWU 1470)
- Hill, C.K. (Ed.)  
*Spacelab Mission 3: Experiment Descriptions*. Huntsville, AL: NASA, Marshall Space Flight Center, 50 p., 1982. (NASA-TM-82502) (GWU 4351)
- Homick\*, J.L.  
Noise pollution.  
In: *Space Station Medical Sciences Concepts* (Mason, J.A., Johnson, P.C., Jr., Eds.). Houston, TX: NASA, Johnson Space Center, p. 43-45, 1984. (NASA-TM-58255) (GWU 6147)
- Hubbard, G.S.; Hargens\*, A.R.  
Sustaining humans in space.  
*Mechanical Engineering* 111(9): 40-44, 1989. (GWU 13727)
- Hunter, N.; Taylor\*, G.; Rahman, H.; Janney, R.; Caputo, M.; Gibson, R.  
Remote control of a digital imaging system: A model for telescience aboard Space Station Freedom (Abstract).  
*Aviation, Space, and Environmental Medicine* 61(5): 503, 1990. (GWU 13197)
- Huntoon\*, C.L.  
Human tolerance to space flight.  
Paper presented at the AIAA/NASA Symposium on the Maintainability of Aerospace Systems, Anaheim, CA, July 26-27, 1989, 9 p. (AIAA Paper 89-5062) (GWU 11251)
- Huntoon\*, C.L.  
Physiological effects of space flight.  
In: *Space: A New Community of Opportunity*. San Diego, CA: Univelt, Inc., p. 219-224, 1989.  
(AAS Paper 87-644) (GWU 11244)
- Igarashi\*, M.  
Space biomedicine.  
In: *Aerospace Science* (Yajima, K., Ed.). Tokyo, Japan: Nihon University, p. 11-26, 1988. (GWU 10574)
- Jagow\*, R.B.  
The development of a Space Shuttle Research Animal Holding Facility.  
Paper presented at the Intersociety Conference on Environmental Systems, San Diego, CA, July 14-17, 1980, 6 p.  
(ASME Paper 80-ENAS-39) (GWU 3389)
- Johnson, C.C.; Hargens\*, A.R.  
Artificial gravity: A research tool for gravitational biology (Abstract).  
*Aviation, Space, and Environmental Medicine* 61(5): 494, 1990. (GWU 13189)
- Johnson, C.C.; Hargens\*, A.R.  
Scientific uses and technical implementation of a variable gravity centrifuge on Space Station Freedom.  
Paper presented at the 20th Intersociety Conference on Environmental Systems, Williamsburg, VA, July 9-12, 1990, 9 p. (SAE Paper 901360) (GWU 13216)
- Johnson\*, P.C.; Mason, J.A. (Eds.)  
*Medical Operations and Life Sciences Activities on Space Station*. Houston, TX: NASA, Johnson Space Center, 47 p., 1982. (NASA-TM-58248) (GWU 3872)

- Johnson\*, P.C., Jr.  
Space medicine.  
*American Scientist* 72(5): 495-497, 1984. (GWU 5454)
- Johnson\*, R.D.  
Life sciences experiments on the space shuttle.  
In: *Space Gerontology* (Miquel, J., Economos, A.C., Eds.). Washington, DC: NASA Headquarters, p. 75-79, 1982. (NASA-CP-2248) (GWU 3859)
- Kaufman, J.W.; Bagian\*, J.P.  
Insidious hypothermia during raft use.  
*Aviation, Space, and Environmental Medicine* 61(6): 569-575, 1990. (GWU 2850)
- Kirby\*, R.R.  
Life Sciences Laboratory Equipment (LSLE) (Abstract).  
In: *Space-Environment Workshop for Life Scientists*. Washington, DC: NASA Headquarters, p. 36-37, 1980. (GWU 5004)
- Leach\*, C.S.  
Space life sciences: An historical perspective (Abstract).  
Abstract of a paper presented at the American Association for the Advancement of Science Annual Meeting, New Orleans, LA, February 15-20, 1990, 1 p. (GWU 13808)
- Leach\*, C.S.; Dietlein\*, L.F.; Pool\*, S.L.; Nicogossian\*, A.E.T.  
Medical considerations for extending human presence in space.  
Paper presented at the 39th Congress of the International Astronautical Federation, Bangalore, India, October 8-15, 1988, 9 p. (IAF/IAA Paper 88-484) (GWU 8393)
- Leach\*, C.S.; Pool\*, S.L.; Sawin, C.F.; Nicogossian\*, A.E.  
Extended Duration Orbiter Medical Project.  
Paper presented at the 41st Congress of the International Astronautical Federation, Dresden, Germany, October 6-12, 1990, 7 p. (IAF/IAA Paper 90-514) (GWU 13807)
- Leach\*, C.S.; Schneider, H.J.  
Spacelab Life Sciences 1 and 2 scientific research objectives.  
*Physiologist* 30(1, Suppl.): S6-S9, 1987. (GWU 8619)
- Leonard\*, J.I.  
Mathematical models for testing space-flight hypotheses (Abstract).  
In: *Proceedings of the 34th Annual Conference on Engineering in Medicine and Biology*, Houston, TX, September 21-23, 1981. Bethesda, MD: The Alliance for Engineering in Medicine and Biology, p. 242, 1981. (GWU 2454)
- Leonard\*, J.I.; White\*, R.J.; Rummel, J.A.  
An integrative approach to space-flight physiology using systems analysis and mathematical simulation.  
In: *The 11th Space Simulation Conference* (Bond, A.C., Ed.). Houston, TX: NASA, Johnson Space Center, p. 149-162, 1980. (NASA-CP-2150) (GWU 2479)
- Li, C.-M.; Mohler\*, S.  
Postural effects of +Gz impact on the spinal column (Abstract).  
*Aviation, Space, and Environmental Medicine* 60(5): 488, 1989. (GWU 14386)
- Logan\*, J.S.; Shulman, E.L.; Johnson\*, P.C.  
Health care delivery system for long duration manned space operations.  
Paper presented at the 13th Intersociety Conference on Environmental Systems, San Francisco, CA, July 11-13, 1983, 8 p. (SAE Paper 831134) (GWU 5886)

- Lund\*, G.F.  
Subcutaneous electrode structure (Patent).  
U.S. Patent No. 4,219,027. August 26, 1980. (GWU 5734)
- Luu, P.B.; Ortiz, V.; Barnes, P.R.; Greenleaf\*, J.E.  
*Physiological Responses to Prolonged Bed Rest in Humans: A Compendium of Research (1981-1988)*.  
Moffett Field, CA: NASA, Ames Research Center, 144 p., 1990. (NASA-TM-102249) (GWU 13110)
- Mains, R.C.; Gomersall, E.W.  
*Final Reports of U.S. Monkey and Rat Experiments Flown on the Soviet Satellite Cosmos 1514*. Moffett Field, CA: NASA, Ames Research Center, 282 p., 1986. (NASA-TM-88223) (GWU 2232)
- Mallory\*, K.; Price, L.; Mahla, G.; Kirkpatrick, M.  
*Development of Life Sciences Long Duration Mission Requirements and Concept (NASW-3246)*. Alexandria, VA: Kenneth Mallory & Associates, Inc. & The Essex Corporation, 145 p., 1980. (GWU 3710)
- Martello, N.V. (Cohen, M.M., Souza, K.A. = P.I.)  
*Biomedical Research Division Significant Accomplishments for FY 1984*. Moffett Field, CA: NASA, Ames Research Center, 162 p., 1985. (NASA-TM-86692) (GWU 6540)
- Mason, J.A.; Johnson\*, P.C., Jr.  
Panel for space station medical sciences concepts (Abstract).  
*Aviation, Space, and Environmental Medicine* 55(5): 474, 1984. (GWU 5811)
- Mason, J.A.; Johnson\*, P.C., Jr. (Eds.)  
*Space Station Medical Sciences Concepts*. Houston, TX: NASA, Johnson Space Center, 80 p., 1984. (NASA-TM-58255) (GWU 6014)
- McCollum\*, G.W.  
Life Sciences Integration Facility (Abstract).  
In: *Space-Environment Workshop for Life Scientists*. Washington, DC: NASA Headquarters, p. 34-35, 1980. (GWU 5006)
- McDonnell Douglas Astronautics Company  
*Space Station Life Sciences Research Facility Technology Assessment and Technology Development Plan: Executive Summary*. Huntington Beach, CA: McDonnell Douglas Corporation, 45 p., 1983. (MDC H0743) (GWU 6372)
- McDonnell Douglas Astronautics Company  
*Space Station Life Sciences Research Facility Technology Assessment and Technology Development Plan, Volume I: Technology Assessment and Development Plan*. Huntington Beach, CA: McDonnell Douglas Corporation, 327 p., 1983. (MDC H0743) (GWU 6067)
- McDonnell Douglas Astronautics Company  
*Space Station Life Sciences Research Facility Technology Assessment and Technology Development Plan, Volume II: Experiment Technology Requirements*. Huntington Beach, CA: McDonnell Douglas Corporation, 488 p., 1983. (MDC H0743) (GWU 6069)
- Mohler\*, S.  
An overview of the residency training program for aerospace medicine at Wright State University.  
In: *Aerospace Science* (Yajima, K., Ed.). Tokyo, Japan: Nihon University, p. 70-71, 1988. (GWU 10572)
- Mohler\*, S.; Heller, A.; Goodrum, J.  
Preassessment of crews for long-term space flight (Abstract).  
In: *Abstracts of Papers, XXXIV International Congress of Aviation and Space Medicine*, Belgrade, Yugoslavia, October 13-18, 1986, 2 p. (GWU 9962)

Mohler\*, S.R.

Age and space flight.

*Aviation, Space, and Environmental Medicine* 56: 714-717, 1985. (GWU 12014)

Mohler\*, S.R.

Careers as an Aviation Medical Examiner (Abstract).

*Aviation, Space, and Environmental Medicine* 61(5): 505, 1990. (GWU 13198)

Mohler\*, S.R.; Nicogossian\*, A.E.T.; McCormack\*, P.D.; Mohler, S.R., Jr.

Inflight combined vertical and lateral space vehicular accelerations: Human tolerances.

Paper presented at the 38th Congress of the International Astronautical Federation, Brighton, England, October 10-17, 1987, 17 p. (IAF Paper 87-531) (GWU 11362)

Money\*, K.E.

Biological effects of space travel.

*Canadian Aeronautics and Space Journal* 27(3): 195-201, 1981. (GWU 3888)

Morrison\*, D.R.

Biomedical applications (Abstract).

In: *Space-Environment Workshop for Life Scientists*. Washington, DC: NASA Headquarters, p. 4-5, 1980. (GWU 4946)

National Aeronautics and Space Administration

*Data Requirements for Spacelab-1 NASA Life Sciences Flight Experiments*. Houston, TX: NASA, Johnson Space Center, 113 p., 1981. (JSC-17388, LS-50016) (GWU 3934)

National Aeronautics and Space Administration

*Life Sciences Considerations for Space Station*. Washington, DC: NASA Headquarters, 57 p., 1982. (GWU 3580)

National Aeronautics and Space Administration

*Life Sciences Flight Experiments Program: Spacelab-4 Science Summaries of Tentatively Selected Experiments*. Washington, DC: NASA Headquarters, 121 p., 1981. (GWU 3727)

National Aeronautics and Space Administration

*Man Tended - Life Sciences Research Facility*. Marshall Space Flight Center, AL: NASA, Marshall Space Flight Center, 175 p., 1982. (MSFC PD(LSRF) 1-82) (GWU 3709)

National Aeronautics and Space Administration

*Shuttle Support Equipment: Life Sciences and the Shuttle Program*. Houston, TX: NASA, Johnson Space Center, 23 p., 1982. (GWU 3707)

National Aeronautics and Space Administration

*Space-Environment Workshop for Life Scientists*. Washington, DC: NASA Headquarters, 57 p., 1980. (GWU 4987)

National Aeronautics and Space Administration

*Spacelab 1*. Huntsville, AL: NASA, Marshall Space Flight Center, 30 p., 1982. (GWU 3585)

Nicogossian\*, A.; Pool\*, S.

The Shuttle and its importance to space medicine.

In: *Applications of Space Development* (Napolitano, L.G., Ed.). Oxford, England: Pergamon Press, p. 61-68, 1981. (GWU 2947)

Nicogossian\*, A.; Pool\*, S.L.; Leach\*, C.S.; Moseley\*, E.; Rambaut\*, P.

Principles of NASA longitudinal medical studies. (Russian)

*Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina* 18(1): 29-36, 1984. (GWU 6070)

Nicogossian\*, A.; Sulzman\*, F.; Radtke, M.; Bungo\*, M.  
Assessment of the efficacy of medical countermeasures in space flight.  
*Acta Astronautica* 17(2): 195-198, 1988. (GWU 9847)

Nicogossian\*, A.E.  
Countermeasures to space deconditioning.  
In: *Space Physiology and Medicine*, 2nd Edition (Nicogossian, A.E., Huntoon, C.L., Pool, S.L., Eds.).  
Philadelphia, PA: Lea & Febiger, p. 294-311, 1989. (GWU 14327)

Nicogossian\*, A.E.  
*Human Capabilities in Space*. Washington, DC: NASA Headquarters, 59 p., 1984. (NASA-TM-87360)  
(GWU 6138)

Nicogossian\*, A.E.  
Overall physiological response to space flight.  
In: *Space Physiology and Medicine*, 2nd Edition (Nicogossian, A.E., Huntoon, C.L., Pool, S.L., Eds.).  
Philadelphia, PA: Lea & Febiger, p. 139-153, 1989. (GWU 14318)

Nicogossian\*, A.E.; Dietlein\*, L.F.  
Microgravity: Simulations and analogs.  
In: *Space Physiology and Medicine*, 2nd Edition (Nicogossian, A.E., Huntoon, C.L., Pool, S.L., Eds.).  
Philadelphia, PA: Lea & Febiger, p. 240-248, 1989. (GWU 14323)

Nicogossian\*, A.E.; Garshnek, V.  
Historical perspectives.  
In: *Space Physiology and Medicine*, 2nd Edition (Nicogossian, A.E., Huntoon, C.L., Pool, S.L., Eds.).  
Philadelphia, PA: Lea & Febiger, p. 3-44, 1989. (GWU 14312)

Nicogossian\*, A.E.; Huntoon\*, C.L.; Pool\*, S.L. (Eds.)  
*Space Physiology and Medicine*, 2nd Edition. Philadelphia, PA: Lea & Febiger, 421 p., 1989. (GWU 14311)

Nicogossian\*, A.E.; Lewis, C.S. (Eds.)  
*A Critical Review of the U.S. and International Research on Effects of Bedrest on Major Body Systems*.  
Washington, DC: NASA Headquarters, 117 p., 1982. (GWU 3689)

Nicogossian\*, A.E.; Nachtwey\*, D.S.  
Orbital flight.  
In: *Space Physiology and Medicine*, 2nd Edition (Nicogossian, A.E., Huntoon, C.L., Pool, S.L., Eds.).  
Philadelphia, PA: Lea & Febiger, p. 47-58, 1989. (GWU 14313)

Nicogossian\*, A.E.; Parker, J.F., Jr.; Garshnek, V.  
Space vehicles for manned programs.  
In: *Space Physiology and Medicine*, 2nd Edition (Nicogossian, A.E., Huntoon, C.L., Pool, S.L., Eds.).  
Philadelphia, PA: Lea & Febiger, p. 77-103, 1989. (GWU 14314)

Nicogossian\*, A.E.; Pool\*, S.L.  
Ground-based medical programs.  
In: *Space Physiology and Medicine*, 2nd Edition (Nicogossian, A.E., Huntoon, C.L., Pool, S.L., Eds.).  
Philadelphia, PA: Lea & Febiger, p. 283-293, 1989. (GWU 14326)

Nicogossian\*, A.E.; Pool\*, S.L.  
Medical care and health maintenance in flight.  
In: *Space Physiology and Medicine*, 2nd Edition (Nicogossian, A.E., Huntoon, C.L., Pool, S.L., Eds.).  
Philadelphia, PA: Lea & Febiger, p. 349-363, 1989. (GWU 14329)

Nicogossian\*, A.E.; Pool\*, S.L.; Leach\*, C.S.; Moseley\*, E.; Rambaut\*, P.C.  
Concepts for NASA longitudinal health studies.  
*Aviation, Space, and Environmental Medicine* 54(12): S68-S72, 1983. (GWU 5229)

Nouchedehe, J.M.; White\*, R.J.; Dunn\*, C.D.R.

An analysis of variance program for the evaluation of results of parallel line assays.

*Computer Programs in Biomedicine* 14: 197-205, 1982. (GWU 4647)

Olcott\*, T.M.; Rudiger, C.E., Jr.

*Lockheed Involvement in Shuttle Life Sciences Flight Experiments*. Palo Alto, CA: Lockheed Missiles & Space Co., 15 p., 1983. (GWU 4364)

Paganelli, C.V.; Farhi\*, L.E. (Eds.)

*Physiological Function in Special Environments*. New York: Springer-Verlag, 1989.

Pendergast\*, D.R.; Olszowka\*, A.J.; Rokitka\*, M.A.; Farhi\*, L.E.

Biomedical support of man in space.

*Acta Astronautica* 17(2): 187-193, 1988. (GWU 10638)

Pendergast\*, D.R.; Olszowka\*, A.J.; Rokitka\*, M.A.; Farhi\*, L.E.

Biomedical support of man in space.

Paper presented at the 37th Congress of the International Astronautical Federation, Innsbruck, Austria, October 4-11, 1986, 8 p. (IAF/IAA 86-393) (GWU 8417)

Perry\*, T.

*Life Sciences Flight Experiments Program: Guide to the Life Sciences Flight Experiments Program*.

Washington, DC: NASA Headquarters, 147 p., 1984. (GWU 6075)

Philpott\*, D.E.

Production of contamination-free apertures (Abstract).

*Journal of Electron Microscopy Technique* 7(2): 135, 1987. (GWU 9832)

Philpott\*, D.E.; Kato, K.; Stevenson, J.

Perfusion fixation in space: Problems and solutions (Abstract).

Abstract of paper presented at the 14th Western Regional Meeting of Electron Microscopists and Microanalysts, April 5-7, 1989, p. 7. (GWU 14236)

Pleasant, L.; Limbach, L. (Waters, E. = P.I.)

*Biomedical Research Publications: 1980-1982*. Washington, DC: NASA Headquarters, 52 p., 1982. (NASA-CR-3587) (GWU 2885)

Pool\*, S.L.

Space medicine.

Paper presented at the 18th Intersociety Conference on Environmental Systems, San Francisco, CA, July 11-13, 1988, 5 p. (SAE Paper 88-1009) (GWU 10174)

Pool\*, S.L.; Johnson, P.C., Jr.; Mason, J.A.

*Shuttle OFT Medical Report: Summary of Medical Results from STS-1, STS-2, STS-3, and STS-4*.

Houston, TX: NASA, Johnson Space Center, 102 p., 1983. (NASA-TM-58252) (GWU 5239)

Pool\*, S.L.; Johnson\*, P.C., Jr.; Mason, J.A. (Eds.)

*STS-1 Medical Report*. Houston, TX: NASA, Johnson Space Center, 120 p., 1981. (NASA-TM-58240) (GWU 3503)

Pool\*, S.L.; Johnson\*, P.C., Jr.; Mason, J.A. (Eds.)

*STS-2 Medical Report*. Houston, TX: NASA, Johnson Space Center, 31 p., 1982. (NASA-TM-58245) (GWU 4356)

Pool\*, S.L.; Johnson\*, P.C., Jr.; Mason, J.A. (Eds.)

*STS-3 Medical Report*. Houston, TX: NASA, Johnson Space Center, 37 p., 1982. (NASA-TM-58247) (GWU 4655)



- Pool\*, S.L.; Moseley\*, E.C.  
Medical evaluation for astronaut selection and longitudinal studies.  
In: *Space Physiology and Medicine*, 2nd Edition (Nicogossian, A.E., Huntoon, C.L., Pool, S.L., Eds.).  
Philadelphia, PA: Lea & Febiger, p. 251-272, 1989. (GWU 14324)
- Pool\*, S.L.; Nicogossian\*, A.  
Biomedical results of the Space Shuttle orbital flight test program.  
*Aviation, Space, and Environmental Medicine* 54(12): S41-S49, 1983. (GWU 5219)
- Pool\*, S.L.; Nicogossian\*, A.  
Biomedical results of the space shuttle orbital flight test program. (Russian)  
*Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina* 18(1): 45-57, 1984. (GWU 6071)
- Rambaut\*, P.; Nicogossian\*, A.  
NASA's life sciences and space radiation biology.  
*Advances in Space Research* 4(10): 277-283, 1984. (GWU 6500)
- Rambaut\*, P.C.  
The human element.  
In: *A Meeting with the Universe: Science Discoveries from the Space Program* (French, B.M., Maran, S.P., Eds.).  
Washington, DC: NASA Headquarters, p. 122-143, 1981. (NASA-EP-177) (GWU 2844)
- Rambaut\*, P.C.  
The prevention of adverse physiological change in space station crewmembers.  
*Acta Astronautica* 17(2): 199-202, 1988. (GWU 9850)
- Rambaut\*, P.C.  
The social and physical environment of space stations and colonies.  
In: *Beyond Spaceship Earth* (Hargrove, E.C., Ed.). San Francisco, CA: Sierra Club Books, p. 263-276, 1986.  
(GWU 9687)
- Rock, J.A.; Fortney\*, S.M.  
Medical and surgical considerations for women in spaceflight.  
*Obstetrical and Gynecological Survey* 39(8): 525-535, 1984. (GWU 7687)
- Rothert, M.E.; Brown, H.A.; Mohler\*, S.R.  
Resolutions of the Aerospace Medical Association from 1929-1941: Part I. 1929-1933.  
*Aviation, Space, and Environmental Medicine* 59(6): 583-585, 1988. (GWU 8540)
- Rothert, M.E.; Brown, H.A.; Mohler\*, S.R.  
Resolutions of the Aerospace Medical Association from 1929-1941: Part II. 1934-1936.  
*Aviation, Space, and Environmental Medicine* 59(7): 679-682, 1988. (GWU 9448)
- Rothert, M.E.; Brown, H.A.; Mohler\*, S.R.  
Resolutions of the Aerospace Medical Association from 1929-1941: Part III. 1937-1941.  
*Aviation, Space, and Environmental Medicine* 58(8): 783-786, 1988. (GWU 9529)
- Sander\*, M.J.  
Spacelab, space platforms and the future. U.S. mission plans for Spacelab.  
Paper presented at the 20th Goddard Memorial Symposium, Greenbelt, MD, March 17-19, 1982, 21 p.  
(AAS Paper 82-103) (GWU 3586)
- Sandler\*, H.  
Are there limits to man's long-term presence in space?  
Paper presented at the 13th Intersociety Conference on Environmental Systems, San Francisco, CA, July 11-13,  
1983, 8 p. (SAE Paper 83-1132) (GWU 5885)

- Sandler\*, H.  
Human involvement in long-term spaceflight.  
*Sangyo Ika Daigaku Zasshi* 7(Suppl.): 245-254, 1985. (GWU 7675)
- Sandler\*, H.; Vernikos\*, J. (Eds.)  
*Inactivity: Physiological Effects*. Orlando, FL: Academic Press, 205 p., 1986. (GWU 6697)
- Santy, P.A.; Kapanka, H.; Davis, J.R.; Stewart\*, D.F.  
Analysis of sleep on shuttle missions (Abstract).  
*Aviation, Space, and Environmental Medicine* 58(5): 503, 1987. (GWU 8814)
- Schatte, C.; Grindeland\*, R.; Callahan\*, P.; Berry, W.; Funk, G.; Lencki, W.  
Animal studies on Spacelab-3.  
In: *Space Physiology*, Proceedings of the 2nd International Conference, Toulouse, France, November 20-22, 1985 (Hunt, J.J., Ed.). Paris: European Space Agency, p. 197-202, 1986. (ESA-SP-237) (GWU 8682)
- Sharp\*, J.C.  
United States and Soviet Life Sciences factors in long-duration space flights.  
In: *Space Manufacturing 4*, Proceedings of the Fifth Conference, Princeton, NJ, May 18-21, 1981 (Grey, J., Hamdan, L.A., Eds.). New York: American Institute of Aeronautics and Astronautics, p. 403-405, 1981. (GWU 3621)
- Smith, M.C., Jr.; Johnson\*, P.C.; LeBlanc\*, A.  
Animal Enclosure Module inflight test.  
In: *Results of the Life Sciences DSOs Conducted Aboard the Space Shuttle 1981-1986* (Bungo, M.W., Bagian, T.M., Bowman, M.A., Levitan, B.M., Eds.). Houston, TX: NASA, Johnson Space Center, p. 75-77, 1987. (GWU 11200)
- Soffen\*, G.  
NASA's future manned space flight program (Abstract).  
*Acta Astronautica* 8(9-10): 1159, 1981. (GWU 3866)
- Solberg, J.L.; Pleasant, L.G. (Long, W. = P.I.)  
*Space Medicine Research Publications: 1983-1984*. Washington, DC: NASA Headquarters, 77 p., 1984. (NASA-CR-3860) (GWU 6126)
- Souza\*, K.A.  
Cosmos 1129 mission description.  
In: *Final Reports of U.S. Rat Experiments Flown on the Soviet Satellite Cosmos 1129* (Heinrich, M.R., Souza, K.A., Eds.). Moffett Field, CA: NASA, Ames Research Center, p. 1-33, 1981. (NASA-TM-81289) (GWU 2422)
- Souza\*, K.A.  
Cosmos experiments (Abstract).  
In: *Space-Environment Workshop for Life Scientists*. Washington, DC: NASA Headquarters, p. 16-17, 1980. (GWU 5008)
- Souza\*, K.A.  
Status of joint US/USSR experiments planned for the Cosmos '83 biosatellite mission.  
*Physiologist* 25(6, Suppl.): S57-S60, 1982. (GWU 3778)
- Spencer, H.  
*Life Sciences Flight Experiments Program/Life Sciences Laboratory Equipment (LSLE) Descriptions*. Houston, TX: NASA, Johnson Space Center, 79 p., 1983. (JSC-16254-F, LS-30013-F) (GWU 5613)
- Sulzman\*, F.M.  
*Report of Advisory Committee on Future Directions for Biomedical Research in Space: The Need for a Large Primate Research Facility*. Moffett Field, CA: NASA, Ames Research Center, 42 p., 1983. (GWU 5638)

Taylor\*, G.R.; Winkler\*, D.G.; Hunter, N.R.; Thompson, J.L.  
High resolution image analysis for space flight biomedical studies (Abstract).  
*Aviation, Space, and Environmental Medicine* 55(5): 467, 1984. (GWU 5632)

Timacheff\*, N.  
Soviet space stations.  
In: *Space Station Medical Sciences Concepts* (Mason, J.A., Johnson, P.C., Jr., Eds.). Houston, TX: NASA, Johnson Space Center, p. 63-68, 1984. (NASA-TM-58255) (GWU 6143)

Tokarev, V.F.; Razsolov, N.A.; Mohler\*, S.R.; Nicogossian\*, A.E.T.  
Training of aerospace medicine physicians in the Soviet Union and the United States of America.  
*Aviation, Space, and Environmental Medicine* 57(4): 376-380, 1986. (GWU 11891)

Tollinger, D.; Williams\*, B.A.  
Evaluation of biological models using Spacelab.  
Paper presented at the Intersociety Conference on Environmental Systems, San Diego, CA, July 14-17, 1980, 7 p.  
(ASME Paper 80-ENAS-38) (GWU 2909)

Tremor, J.W.; Callahan\*, P.X.; Funk, G.  
Biological results of the Experiment Verification Test (EVT) for the Research Animal Holding Facility (RAHF)  
(Abstract).  
*Aviation, Space, and Environmental Medicine* 55(5): 469, 1984. (GWU 5631)

Vanderploeg\*, J.M.; Bungo\*, M.W.; Thornton\*, W.E.; Pool\*, S.L.; Logan, J.S.  
Current issues in space medicine.  
In: *Preprints of the 1983 Annual Scientific Meeting, Aerospace Medical Association*, Houston, TX, May 23-26, 1983. Washington, DC: Aerospace Medical Association, p. 22-23, 1983. (GWU 4889)

Vernikos\*, J.  
Artificial gravity as a potential countermeasure for human exploration mission (Abstract).  
*Aviation, Space, and Environmental Medicine* 61(5): 476, 1990. (GWU 13173)

Vernikos-Danellis\*, J.; Sharp, J.C.  
The Life Sciences program at the NASA Ames Research Center: An overview.  
*Physiologist* 32(1, Suppl.): S1-S4, 1989. (GWU 10791)

Wallace, J.S. (Dutcher, F.R. = P.I.)  
*Space Medicine Research Publications: 1984-1986*. Washington, DC: NASA Headquarters, 140 p., 1988.  
(NASA-CR-4184) (GWU 9022)

West\*, J.B.  
Man in space.  
*News in Physiological Sciences* 1: 189-192, 1986. (GWU 9713)

West\*, J.B.  
Spacelab: The coming of age of space physiology research.  
*Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 57(6): 1625-1631, 1984.  
(GWU 9714)

White\*, R.J.  
*MATHMAN: A Users Manual*. Houston, TX: Management and Technical Services Company, 59 p., 1981.  
(TIR-2114-MED-1007) (GWU 2870)

White\*, R.J.; Cramer, D.B.; Leonard\*, J.I.; Bishop, W.P.  
Space station and the life sciences.  
Paper presented at the AIAA/NASA Symposium on the Space Station, Arlington, VA, July 18-20, 1983, 13 p.  
(AIAA Paper-83-7089) (GWU 5589)

White\*, R.J.; Leonard\*, J.I.

Physiological data analysis using mathematical modeling and computer simulation (Abstract).

In: *Workshop on Advances in NASA-Relevant, Minimally Invasive Instrumentation*. Pasadena, CA: NASA, Jet Propulsion Laboratory, p. 6/1, 1985. (JPL D-1942) (GWU 6198)

White\*, R.J.; Leonard\*, J.I.; Rummel, J.A.; Leach\*, C.S.

A systems approach to the physiology of weightlessness.

*Journal of Medical Systems* 6(4): 343-358, 1982. (GWU 4418)

Winter\*, D.L.

The human presence in space.

In: *Space Industrialization*, Vol. II (O'Leary, B., Ed.). Boca Raton, FL: CRC Press, p. 193-206, 1982. (GWU 5578)

Wolfe\*, J.W.; Sulzman\*, F.M.; Vernikos\*, J.; Cohen\*, M.M.; Whalen\*, R.; Hargens\*, A.R.; Johnson, C.C.  
NASA's Artificial Gravity Program and Flight Research Centrifuge Facility.

In: *Third Nihon University International Symposium on Aerospace Science*, p. 41-42, 1990. (GWU 13564)

Young\*, L.R.; Colombano, S.P.; Haymann-Haber, G.; Groleau, N.; Szolovits, P.; Rosenthal, D.

An expert system to advise astronauts during experiments.

Paper presented at the 40th Congress of the International Astronautical Federation, Malaga, Spain, October 7-12, 1989, 10 p. (IAF Paper 89-033) (GWU 11255)

Young\*, L.R.; Rudiger, C.E., Jr.

Life sciences uses of Space Station Freedom.

Paper presented at the 27th Aerospace Sciences Meeting, Reno, NV, January 9-12, 1989, 7 p. (AIAA Paper 89-0509) (GWU 11253)

## **INDEX OF PRINCIPAL INVESTIGATORS**



Almon, R.R. 41, 47, 69, 70  
 Altchuler, S.I. 3, 7, 75  
 Arnaud, C. 30  
 Arnaud, C.D. 4, 9, 11, 14, 18, 20, 26, 30, 31, 33, 36  
 Arnaud, S. 4, 21, 22  
 Arnaud, S.B. 4, 5, 7, 8, 16, 22, 24, 26, 27, 31, 34, 42, 65  
 Baldwin, K. 41  
 Baldwin, K.M. 31, 41, 42, 44, 50, 51, 57, 59, 63, 64, 66, 67, 68, 69, 75  
 Bikle, D.D. 6, 14, 15, 27, 31  
 Blankenhorn, D.H. 42  
 Booth, F.W. 41, 43, 44, 46, 59, 61, 64, 65, 66, 67, 69, 70, 71  
 Boyd, D.P. 13, 21, 30  
 Brighton, C.T. 6  
 Buchanan, P. 5, 44, 46, 47, 52, 53, 66, 75, 76  
 Bunch, T.E. 7, 26  
 Callahan, P. 52  
 Callahan, P.X. 3, 21, 27  
 Cann, C. 5, 7, 18, 28  
 Cann, C.E. 5, 7, 8, 9, 10, 12, 25, 27, 36, 45  
 Carter, D.R. 6, 9, 14, 35  
 Castleman, K.R. 45, 46, 51, 57  
 Cavanagh, P. 9  
 Cavanagh, P.R. 9  
 Charles, J.B. 52  
 Cintron, N. 75  
 Convertino, V. 44  
 Convertino, V.A. 44, 46, 47, 53  
 Daunton, N.G. 46  
 DeGioanni, J.J.C. 33  
 DeLuca, H. 11  
 DeLuca, H.F. 7, 10, 11, 12, 13, 16, 18, 21, 22, 23, 26, 27, 28, 29, 31, 32, 33, 35, 75  
 Di Ferrante, D.T. 11  
 Di Ferrante, N. 19, 33  
 Dietlein, L. 24  
 Dillaman, R.M. 11, 30  
 Dolkas, C. 59  
 Dolkas, C.B. 59  
 Driscoll, T. 19  
 Dudley, G. 47, 51, 52  
 Dudley, G.A. 45, 47, 53, 54, 65, 66, 76  
 Edgerton, R. 48  
 Edgerton, V.R. 34, 41, 42, 44, 45, 46, 48, 50, 51, 52, 53, 54, 55, 57, 58, 61, 63, 64, 65, 68, 69, 70  
 Ellis, S. 12, 42, 48, 56, 61, 62, 63  
 Etlinger, J.D. 49, 51, 54, 56, 60, 65, 69, 70, 71, 72  
 Feller, D.D. 49, 51, 64  
 Fitts, R. 70  
 Fitts, R.H. 46, 49, 50, 55, 58, 68, 69, 70, 71  
 Frey, M.A. 50  
 Frey, M.A.B. 44  
 Fujii, M.D. 50  
 Genant, H. 13, 22, 28, 35  
 Genant, H.K. 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 18, 19, 21, 28, 29, 30, 32, 33, 35, 42, 66  
 Ginoza, H.S. 49, 51

Goldspink, G. 56  
 Goldspink, G.E. 56  
 Gollnick, P.D. 42, 44, 47, 51, 53  
 Greenleaf, J.E. 16  
 Grindeland, R. 4, 22, 46, 52, 69  
 Grindeland, R.E. 7, 23, 26, 27, 31, 34, 38, 52, 57, 58, 61  
 Halloran, B. 14  
 Halloran, B.P. 6, 14, 15, 33  
 Hargens, A.R. 56, 75  
 Herbison, G.J. 54, 55, 58  
 Hoh, J.F.Y. 53  
 Holton, E. 15, 16  
 Holton, E.M. 5, 8, 14, 16, 30, 34  
 Huntoon, C.L. 30  
 Jee, W. 25  
 Jee, W.S.S. 3, 5, 11, 12, 13, 16, 17, 18, 20, 22, 25, 26, 27, 28, 29, 34, 35, 36, 37  
 Johnson, P. 19, 20, 56, 75  
 Johnson, P.C. 12, 20, 22, 31, 33, 57  
 Kazarian, L. 18, 31  
 Kazarian, L.E. 12, 18  
 Keil, L. 52  
 Kenny, A.D. 15, 18, 27  
 Kerrick, W.G.L. 53  
 Lacy, J.L. 19  
 Leach, C. 19, 33  
 Leach, C.S. 11  
 LeBlanc, A. 6, 19, 20, 29, 30, 31, 33, 35, 51, 56, 75  
 LeBlanc, A.D. 3, 12, 14, 19, 20, 21, 22, 31, 51, 57  
 Manatt, S.L. 21, 30  
 Mandel, A.D. 66  
 Martin, R.B. 16, 22, 27  
 Matthews, J.L. 23  
 Max, S.R. 42, 47, 50, 55, 56, 57, 58, 62, 64, 68, 71  
 Mazess, R.B. 6, 10, 11, 23, 24, 28, 29, 32  
 Mechanic, G. 4, 7  
 Mechanic, G.L. 6, 15, 18, 19, 24, 25, 27, 34, 36, 37  
 Mohler, S.R. 75  
 Morey, E.R. 6, 17, 25, 31, 32, 35, 36, 49, 51  
 Morey-Holton, E. 5, 6, 8, 10, 14, 15, 16, 18, 26, 27, 32, 36, 51  
 Morey-Holton, E.R. 22, 26, 27, 28, 36  
 Musacchia, X.J. 49, 51, 53, 59, 60, 65, 66  
 Neer, R. 31  
 Neer, R.M. 12, 16, 25, 29, 31, 32  
 Nerem, R.M. 3, 32, 35  
 Nicogossian, A.E. 62  
 Oyama, J. 3, 49, 59  
 Pool, S.L. 22, 62  
 Rambaut, P. 24  
 Rambaut, P.C. 15, 28, 29, 30, 62, 75  
 Riley, D.A. 46, 48, 49, 50, 62, 63, 71  
 Schneider, V. 19, 20, 24, 29, 50, 52, 56, 57, 75  
 Schneider, V.S. 5, 14, 19, 20, 21, 30, 33, 37, 51, 56, 75  
 Selzer, R. 48, 50  
 Selzer, R.H. 53, 56



Simmons, D. 18  
 Simmons, D.J. 31  
 Sonnenfeld, G. 66  
 Stanley, J.H. 27  
 Steele, C.R. 32, 35, 37  
 Suki, W. 33  
 Talbot, J.M. 4, 53  
 Thornton, W. 19, 68  
 Tipton, C.M. 33, 66  
 Vailas, A. 30, 69  
 Vailas, A.C. 11, 21, 22, 23, 30, 31, 33, 34, 38, 57, 75  
 Vandeburgh, H.H. 52, 69, 70  
 Vernikos-Danellis, J. 5, 65  
 Whalen, R. 70, 75  
 Whalen, R.T. 76  
 Wilmore, J.H. 76  
 Woodbury, D.M. 3, 4, 11, 37  
 Wunder, C.C. 36  
 Young, D. 24  
 Young, D.R. 5, 7, 9, 25, 26, 27, 34, 37, 38



**APPENDIX: List of Principal Investigators  
and Addresses**

c 2

98  
INTENTIONALLY BLANK



## MUSCULOSKELETAL DISCIPLINE PRINCIPAL INVESTIGATORS: 1980-1990

Richard R. Almon  
Department of Biological Sciences  
State University of New York  
Buffalo, NY 14260

S.I. Althuler  
Biomedical Laboratory Branch  
NASA, Johnson Space Center  
Houston, TX 77058

Claude D. Arnaud  
Endocrine Unit  
VA Medical Center (111-N)  
4150 Clement Street  
San Francisco, CA 94121

Sara B. Arnaud  
NASA, Ames Research Center  
Life Sciences Division  
Mail Stop 239-17  
Moffett Field, CA 94035

Kenneth Baldwin  
Department of Physiology  
University of California  
College of Medicine at Irvine  
Irvine, CA 92717

Daniel D. Bikle  
Veterans Administration Medical Center  
4150 Clement Street  
San Francisco, CA 94121

Frank Booth  
Department of Physiology and Cell  
Biology  
University of Texas Medical School  
Houston, TX 77225

Douglas Boyd  
NASA, Jet Propulsion Laboratory  
800 Oak Grove Drive  
Pasadena, CA 91109

C.T. Brighton  
Department of Orthopaedic Research  
University of Pennsylvania  
Philadelphia, PA 19104

Paul Buchanan  
NASA, Kennedy Space Center  
Biomedical Office  
Code MD  
Kennedy Space Center, FL 32899

Theodore Bunch  
NASA, Ames Research Center  
Mail Stop 239-4  
Moffett Field, CA 94035

Paul X. Callahan  
NASA, Ames Research Center  
Moffett Field, CA 94035

Christopher E. Cann  
Department of Radiology, C-309  
University of California  
San Francisco, CA 94143

Dennis R. Carter  
Mechanical Engineering Department  
Stanford University  
Design Division  
Stanford, CA 90435

Kenneth R. Castleman  
NASA, Jet Propulsion Laboratory  
California Institute of Technology  
Pasadena, CA 91109

P.R. Cavanagh  
Center for Locomotion Studies  
Pennsylvania State University  
University Park, PA 16802

Nitza M. Cintron  
NASA, Johnson Space Center  
Biomedical Laboratories Branch  
Mail Code SD4N  
Houston, TX 77058

Victor A. Convertino  
NASA, Kennedy Space Center  
Bionetics Corporation, BIO-1  
Biomedical Research Laboratory  
Kennedy Space Center, FL 32899

MUSCULOSKELETAL DISCIPLINE PRINCIPAL INVESTIGATORS: 1980-1990

Hector F. DeLuca  
Department of Biochemistry  
University of Wisconsin  
Madison, WI 53706

N. DiFerrante  
Biochemistry Department  
Baylor College of Medicine  
Houston, TX 77030

Richard M. Dillaman  
Institute for Marine Biomedical Research  
University of North Carolina  
7205 Wrightsville Avenue  
Wilmington, NC 28403

Constantine B. Dolkas  
NASA, Ames Research Center  
Life Sciences Division  
Mail Stop 239-17  
Moffett Field, CA 94035

Theda B. Driscoll  
Division of Experimental Biology  
Baylor College of Medicine  
Houston, TX 77030

Gary A. Dudley  
NASA, Kennedy Space Center  
Code MD-M  
Kennedy Space Center, FL 32899

Bonnie Dunbar  
NASA, Johnson Space Center  
The Astronaut Office  
Houston, TX 77058

V. Reggie Edgerton  
Department of Kinesiology  
2963 Slichter Hall  
University of California  
Los Angeles, CA 90024

Stanley Ellis  
5770 Arboretum Drive  
Los Altos, CA 94022

Joseph D. Etlinger  
Basic Sciences Building  
New York Medical College  
Valhalla, NY 10595

David D. Feller  
NASA, Ames Research Center  
Moffett Field, CA 94035

Robert H. Fitts  
Department of Biology  
Marquette University  
Milwaukee, WI 53233

Mary Ann Bassett Frey  
Lockheed Corporation  
600 Maryland Avenue  
Suite 600  
Washington, DC 20024

Mavis D. Fujii  
NASA, Johnson Space Center  
Space Biomedical Research Institute  
Houston, TX 77058

Harry K. Genant  
Department of Radiobiology  
School of Medicine  
University of California  
San Francisco, CA 94143

H.S. Ginoza  
NASA, Ames Research Center  
Moffett Field, CA 94035

Geoffrey E. Goldspink  
Department of Anatomical and Cellular  
Biology  
Tufts University  
Boston, MA 02111

Phillip D. Gollnick (deceased)  
College of Veterinary Medicine  
Washington State University  
Pullman, WA 99164

MUSCULOSKELETAL DISCIPLINE PRINCIPAL INVESTIGATORS: 1980-1990

Richard Grindeland  
NASA, Ames Research Center  
Life Sciences Division  
Mail Stop 239-7  
Moffett Field, CA 94035

Bernard P. Halloran  
Veterans Administration Medical Center  
4150 Clement Street  
San Francisco, CA 94121

Gerald J. Herbison  
Department of Rehabilitation Medicine  
Jefferson Medical College  
Thomas Jefferson University  
Philadelphia, PA 19107

Joseph Foon Yoong Hoh  
Physiology Department  
University of Sydney  
Sydney NSW 2006 Australia

Webster S.S. Jee  
Division of Radiobiology, Building 351  
University of Utah  
Salt Lake City, UT 84112

Phillip C. Johnson (deceased)  
NASA, Johnson Space Center  
Code SD  
Houston, TX 77058

L. E. Kazarian  
Biodynamic Effects Branch  
Biodynamics & Bioengineering Division  
Air Force Aerospace Medical Research  
Laboratory  
Wright-Patterson Air Force Base, OH 45433

Alexander D. Kenny  
School of Medicine  
Texas Tech University  
Lubbock, TX

W.G. Kerrick  
University of Miami  
Coral Gables, FL 33124

Adrian D. LeBlanc  
Baylor College of Medicine  
One Baylor Plaza  
Houston, TX 77030

Stanley L. Manatt  
NASA, Jet Propulsion Laboratory  
Biomedical Research Program  
California Institute of Technology  
4800 Oak Grove Drive  
Pasadena, CA 91109

R. Bruce Martin  
Orthopaedic Research Laboratories  
TB 150  
University of California  
Davis, CA 95616

Stephen R. Max  
Department of Neurology  
University of Maryland  
Baltimore, MD 21201

Richard B. Mazess  
University of Wisconsin  
Health Science Center  
Madison, WI 43706

Gerald L. Mechanic (deceased)  
Dental Research Center (210H)  
University of North Carolina  
Chapel Hill, NC 27514

Emily Morey-Holton  
NASA, Ames Research Center  
Biomedical Research Division  
Mail Stop 236-7  
Moffett Field, CA 94035

X.J. Musacchia  
Department of Physiology, A-1115  
Health Sciences Center  
University of Louisville  
Louisville, KY 40292

Richard M. Neer  
Massachusetts General Hospital  
Fruit Street  
Boston, MA 02114

MUSCULOSKELETAL DISCIPLINE PRINCIPAL INVESTIGATORS: 1980-1990

Robert M. Nerem  
Department of Mechanical Engineering  
Georgia Institute of Technology  
Atlanta, GA 30332

Jiro Oyama  
NASA, Ames Research Center  
Mail Stop 239-17  
Moffett Field, CA 94035

Danny A. Riley  
Department of Anatomy  
Medical College of Wisconsin  
8701 Watertown Plank Road  
Milwaukee, WI 53226

Victor S. Schneider  
University of Texas  
Health Sciences Center  
Houston, TX 77025

Robert H. Selzer  
NASA, Jet Propulsion Laboratory  
California Institute of Technology  
4800 Oak Grove Drive  
Pasadena, CA 91109

David J. Simmons  
Department of Surgery  
University of Texas at Galveston  
Galveston, TX 77550

James H. Stanley  
Advanced Research and Applications  
Group  
1223 East Arques Avenue  
Sunnyvale, CA 94086

Charles R. Steele  
Department of Mechanical Engineering  
Stanford University  
Stanford, CA 94305

Thomas P. Stein  
School of Osteopathic Medicine  
University of Medicine and Dentistry of  
New Jersey  
401 Haddon Avenue  
Camden, NJ 08103

J.M. Talbot  
Federation of American Societies  
for Experimental Biology  
9650 Rockville Pike  
Bethesda, MD 20814

William E. Thornton  
NASA, Johnson Space Center  
Astronaut Office  
Mail Code CB  
Houston, TX 77058

Arthur C. Vailas  
Biodynamics Laboratory  
2000 Observatory Drive  
University of Wisconsin-Madison  
Madison, WI 53706

Herman H. Vandenburg  
Department of Laboratory Medicine  
The Miriam Hospital  
164 Summit Avenue  
Providence, RI 02906

Robert T. Whalen  
NASA, Ames Research Center  
Life Sciences Division  
Moffett Field, CA 94035

J.H. Wilmore  
University of Arizona  
Muscle Biology Group  
Tucson, AZ 85721

Dixon M. Woodbury  
College of Medicine  
University of Utah  
Salt Lake City, UT 84132

Charles C. Wunder  
702 West Park Road  
Iowa City, IA 52246

Donald R. Young  
NASA, Ames Research Center  
Mail Stop 236-6  
Moffett Field, CA 94035









REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
<small>Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.</small>				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE October 1992		3. REPORT TYPE AND DATES COVERED
4. TITLE AND SUBTITLE PUBLICATIONS OF THE SPACE PHYSIOLOGY AND COUNTERMEASURES PROGRAM, MUSCULOSKELETAL DISCIPLINE: 1980-1990			5. FUNDING NUMBERS C NASW-4324	
6. AUTHOR(S) ELIZABETH L. HESS, JANICE WALLACE-ROBINSON, KATHERINE J. DICKSON, AND JANET V. POWERS				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) SCIENCE COMMUNICATION STUDIES, DCE THE GEORGE WASHINGTON UNIVERSITY WASHINGTON, DC 20006			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) LIFE SCIENCES DIVISION OFFICE OF SPACE SCIENCE AND APPLICATIONS NASA HEADQUARTERS, WASHINGTON, DC 20546			10. SPONSORING / MONITORING AGENCY REPORT NUMBER NASA CR-4468	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY STATEMENT UNCLASSIFIED - UNLIMITED SUBJECT CATEGORY 89			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words)  A 10-YEAR CUMULATIVE BIBLIOGRAPHY OF PUBLICATIONS RESULTING FROMFD RESEARCH SUPPORTED BY THE MUSCULOSKELETAL DISCIPLINE OF THE SPACE PHYSIOLOGY AND COUNTERMEASURES PROGRAM OF NASA'S LIFE SCIENCES DIVISION IS PROVIDED. PRIMARY SUBJECTS ARE BONE, MINERAL, AND CONNECTIVE TISSUE, AND MUSCLE. GENERAL PHYSIOLOGY REFERENCES ARE ALSO INCLUDED. PRINCIPAL INVESTIGATORS WHOSE RESEARCH TASKS RESULTED IN PUBLICATION ARE IDENTIFIED BY ASTERISK. PUBLICATIONS ARE IDENTIFIED BY A RECORD NUMBER CORRESPONDING WITH THEIR ENTRY IN THE LIFE SCIENCES BIBLIOGRAPHIC DATABASE, MAINTAINED BY THE GEORGE WASHINGTON UNIVERSITY.				
14. SUBJECT TERMS BONE, MINERAL, CONNECTIVE TISSUE, MUSCLE			15. NUMBER OF PAGES 112	
			16. PRICE CODE A06	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT UL	

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)  
Prescribed by ANSI Std. Z39-18  
298-102